

EXHIBIT B30

1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE EASTERN DISTRICT OF NEW JERSEY

3 IN RE: JOHNSON & :
4 JOHNSON TALCUM POWDER :
5 PRODUCTS MARKETING, :
6 SALES PRACTICES, AND :
7 PRODUCTS LIABILITY : CASE NO. 16-2738
8 LITIGATION : (FLW) (LHG)

9 THIS DOCUMENT RELATES :
10 TO ALL CASES :
11 :
12 MDL Docket No. 2738 :

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Monday, January 7, 2019

12 Videotaped Oral Deposition of
13 JUDITH K. WOLF, M.D. taken pursuant to
14 notice, was held at the Hilton Austin, 500
15 East 4th Street, Austin, Texas, beginning at
16 9:08 a.m., on the above date, before Micheal
17 A. Johnson, Registered Diplomate Reporter,
18 Certified Realtime Reporter, and Notary
19 Public for the State of Texas.

Judith K. Wolf, M.D.

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Page 5

1 INDEX
2 JUDITH K. WOLF, M.D.
3 January 7, 2019
4 APPEARANCES 2
5 PROCEEDINGS 9
6 EXAMINATION OF JUDITH K. WOLF, M.D.:
7 BY MS. BROWN 9
8 BY MR. KLATT 388
9 BY MS. O'DELL 446
10 BY MS. BROWN 461
11 BY MR. KLATT 470
12 BY MS. O'DELL 482
13 BY MS. BROWN 482
14
15 CERTIFICATE 485
16 ACKNOWLEDGMENT OF DEPONENT 486
17 ERRATA 487
18 LAWYER'S NOTES 488
19
20
21
22
23
24

Judith K. Wolf, M.D.

Page 6

1	DEPOSITION EXHIBITS	
2	JUDITH K. WOLF, M.D.	
3	January 7, 2019	
4	NUMBER DESCRIPTION MARKED	
5	Exhibit 1 Notice of Oral and	11
6	Videotaped Deposition of	
7	Judith Wolf and Duces	
8	Tecum	
9	Exhibit 2 Reprint from UpToDate,	12
10	Evidence-based medicine	
11	Exhibit 3 IARC Monographs on the	31
12	Evaluation of	
13	Carcinogenic Risks to	
14	Humans, Preamble	
15	Exhibit 4 Reproductive Sciences,	35
16	Original Manuscripts	
17	Exhibit 5 Invoices for TALC MDL	36
18	Exhibit 6 Curriculum Vitae	52
19	Exhibit 7 Rule 26 Expert Report of	66
20	Judith Wolf, MD	
21	Exhibit 8 Rule 26 Expert Report of	100
22	Ellen Blair Smith, MD	
23	Exhibit 9 FDA.gov, Ingredients,	128
24	Talc	
	Exhibit 10 Excerpt from Arsenic,	157
	Metals, Fibres, and	
	Dusts, IARC Monographs	
	on the Evaluation of	
	Carcinogenic Risks to	
	Humans	

Page 8

1	DEPOSITION EXHIBITS	
2	JUDITH K. WOLF, M.D.	
3	January 7, 2019	
4	NUMBER DESCRIPTION MARKED	
5	Exhibit 17 Genital use of talc and	247
6	risk of ovarian cancer:	
7	A meta-analysis, by Wera	
8	Berge, et al.	
9	Exhibit 18 Ovarian, Fallopian Tube,	272
10	and Primary Peritoneal	
11	Cancer Prevention (PDQ)	
12	- Health Professional	
13	Version	
14	Exhibit 19 African-Americans and	294
15	Hispanics Remain at	
16	Lower Risk of Ovarian	
17	Cancer Than Non-Hispanic	
18	Whites after Considering	
19	Nongenetic Risk Factors	
20	and Oophorectomy Rates,	
21	by Anna Wu, et al.	
22	Exhibit 20 The Future of Ovarian	350
23	Cancer Diagnosis Is Now	
24	- Through These 4	
	Strategies	
	Exhibit 21 How to find the best	353
	doctor for ovarian	
	cancer, by Judy Wolf	
	Exhibit 22 Arsenic, Metals, Fibres,	427
	and Dusts, IARC	
	Monographs on the	
	Evaluation of	
	Carcinogenic Risks to	
	Humans	

Page 7

1	DEPOSITION EXHIBITS	
2	JUDITH K. WOLF, M.D.	
3	January 7, 2019	
4	NUMBER DESCRIPTION MARKED	
5	Exhibit 11 The Association Between	198
6	Talc Use and Ovarian	
7	Cancer, A Retrospective	
8	Case-Control Study in	
9	Two US States	
10	Exhibit 12 The relationship between	213
11	perineal cosmetic talc	
12	usage and ovarian talc	
13	particle burden, by	
14	Debra S. Heller, MD, et	
15	al.	
16	Exhibit 13 IARC Monographs on the	224
17	Evaluation of	
18	Carcinogenic Risks to	
19	Humans, Volume 93,	
20	Carbon Black, Titanium	
21	Dioxide, and Talc	
22	Exhibit 14 April 1, 2014, Letter,	233
23	Steven Musser to Samuel	
24	Epstein	
	Exhibit 15 American Association for	238
	Cancer Research,	
	Research Article,	
	Association between Body	
	Powder Use and Ovarian	
	Cancer: The African	
	American Cancer	
	Epidemiology Study	
	(AACES)	
	Exhibit 16 Perineal Talc Use and	245
	Ovarian Cancer, A	
	Systematic Review and	
	Meta-Analysis	

Page 9

1 PROCEEDINGS

2 THE VIDEOGRAPHER: Here begins

3 the deposition of Dr. Judy Wolf.

4 Today's date is January 7th, 2019.

5 The time is 9:08 a.m.

6 Will the court reporter please

7 swear in the witness.

8 JUDITH K. WOLF, M.D.,

9 called as a witness, having been duly sworn

10 by a Notary Public, was examined and

11 testified as follows:

12 EXAMINATION

13 BY MS. BROWN:

14 Q. Good morning, Dr. Wolf.

15 A. Good morning.

16 Q. My name is Ally Brown and I

17 represent Johnson & Johnson, and I'll start

18 with some questions for you here today.

19 Okay?

20 A. Okay.

21 Q. Have you ever been deposed

22 before?

23 A. One time.

24 Q. And when was that?

<p style="text-align: right;">Page 10</p> <p>1 A. That was -- I want to say, was 2 nearly three years ago. It was a wrongful 3 termination case at a hospital I used to 4 work. 5 Q. And were you the plaintiff in 6 that case? 7 A. No. 8 Q. Okay. Were you a witness in 9 that case? 10 A. A witness. 11 Q. Okay. And you're probably 12 familiar with some of the rules of a 13 deposition, having done this not too long 14 ago, but I'll just remind you a little bit. 15 A. Okay. 16 Q. We'll try and talk one at a 17 time, so that the court reporter can get down 18 all of my questions and all of your answers. 19 Do you understand that you are under oath 20 here today same as if you were in a court of 21 law? 22 A. Yes. 23 Q. Okay. If you don't understand 24 one of my questions, will you let me know?</p>	<p style="text-align: right;">Page 12</p> <p>1 today, you were -- the attorney representing 2 plaintiffs provided me with a number of 3 documents in request to this notice that I'd 4 like to mark and ask you about. 5 A. Okay. 6 Q. And so the first one we'll mark 7 as Exhibit 2 to your deposition. 8 (Deposition Exhibit 2 marked 9 for identification.) 10 BY MS. BROWN: 11 Q. Which is an UpToDate printout 12 from January 5th, 2019. 13 A. Yes. 14 Q. We only have one copy, so let 15 me hand it to you and ask you to describe 16 what Exhibit 2 is. 17 A. This is an article from 18 UpToDate that describes what evidence-based 19 medicine is, which is -- I provided because 20 this is how I reviewed the subject and how I 21 review any subject when I'm looking to treat 22 a patient or taking care of a patient or 23 working on a research project, and I thought 24 that this was a good outline and description</p>
<p style="text-align: right;">Page 11</p> <p>1 A. Yes. 2 Q. And if you go ahead and answer 3 them, is it fair to assume you understood 4 what I was asking? 5 A. Yes. 6 Q. Okay. We'll take breaks 7 throughout the day. It's not a marathon, so 8 just let me know if you need a break and 9 we'll be happy to accommodate you. Okay? 10 A. Okay. 11 Q. I'm handing you, Dr. Wolf, what 12 we have marked as Exhibit 1 to your 13 deposition, which is the notice of your 14 deposition. 15 (Deposition Exhibit 1 marked 16 for identification.) 17 BY MS. BROWN: 18 Q. Have you seen this document 19 before? 20 A. Yes. 21 Q. Okay. And when was that? 22 A. I saw it several days ago. I 23 can't remember exactly when. 24 Q. Okay. And prior to starting</p>	<p style="text-align: right;">Page 13</p> <p>1 of what I do. 2 Q. Do you consider UpToDate to be 3 a reliable source in your field? 4 A. I think it's a -- 5 MS. O'DELL: Object to form. 6 A. I believe it's a good starting 7 place. If I read something on UpToDate and I 8 want something more in depth, the first thing 9 I usually do is go to the references and look 10 at those. If -- and if I want more 11 information and there's an UpToDate, I'll do 12 a general PubMed literature search to find 13 other articles. 14 BY MS. BROWN: 15 Q. As part of your methodology in 16 your report that we're here to talk about 17 today in the MDL, did you employ the 18 evidence-based medicine approach described in 19 Exhibit 2? 20 A. Yes. 21 Q. And describe that for us 22 briefly, if you would. 23 A. So first is formulating a 24 question and the question is, does talcum</p>

<p style="text-align: right;">Page 14</p> <p>1 powder product cause ovarian cancer? And 2 then the next part is finding the available 3 evidence, which is, for me, looking at the 4 literature that I had at my house to start, 5 going on PubMed and searching literature, 6 looking at references from those, going -- 7 finding more literature from the references 8 that I pulled. Some references were provided 9 by the attorneys, some other information that 10 I asked for, they provided. And so trying to 11 go through as many sources as I could find, 12 to find as much information about the topic 13 that I could find, both in human studies and 14 in vitro studies and in animal studies. 15 Q. And so if I understand your 16 methodology, it was first formulating a 17 question? 18 A. Yes. 19 Q. Is that right? And the 20 question at issue as it relates to this MDL 21 report was, does genital application of 22 talcum powder cause cancer; is that right? 23 A. Does genital -- does talcum 24 powder product cause ovarian cancer.</p>	<p style="text-align: right;">Page 16</p> <p>1 but if there's talcum powder in them, yes. 2 Q. Okay. What about tampons or 3 other feminine products that contain talcum 4 powder? Are you including that in your 5 definition of a "talcum powder product"? 6 A. Again, I haven't really thought 7 about tampons as containing talcum powder as 8 a possibility, so I would say I hadn't 9 considered that. 10 Q. Okay. What about talc-dusted 11 condoms? Are you including that in your 12 definition of a "talcum powder product"? 13 A. I am, but my understanding is, 14 that since the '90s, that practice has 15 stopped because of concerns. 16 Q. And tell me what you're relying 17 on for that understanding. 18 A. I have a reference in my 19 report. I have to look up the name of the 20 author. 21 Q. Okay. And the reference in 22 your report is actually to an internal PCP 23 document. Is that what you're relying on for 24 your understanding that condoms no longer</p>
<p style="text-align: right;">Page 15</p> <p>1 Q. That's the question that you 2 endeavored to answer in your report? 3 A. Yes. 4 Q. Is that right? 5 A. Yes. 6 Q. And when you say talcum -- does 7 talcum powder cause ovarian cancer, do you 8 have a particular product in mind? 9 A. I'm thinking about talcum 10 powder product in general. 11 Q. And how do you define a "talcum 12 powder product"? 13 A. Anything that comes in a powder 14 form that people might apply to their body or 15 someone else's body. 16 Q. What about deodorizing sprays 17 that contain talcum powder? Do you include 18 that in your definition? 19 A. I would include that in my 20 definition. 21 Q. Okay. What about soaps that 22 contain talcum powder? Would you include 23 that in your definition as well? 24 A. I hadn't thought about that,</p>	<p style="text-align: right;">Page 17</p> <p>1 contain talcum powder? 2 A. No. Well, can I look at my 3 report for a second? 4 Q. Absolutely. 5 (Witness reviews document.) 6 A. There are actually references 7 above the PCP report, talking about concerns 8 of ovarian cancer and talc on condoms, Kang, 9 Griffin and Ellis, Casper and Chandler. 10 BY MS. BROWN: 11 Q. And for the record, Doctor, 12 what page are you on? 13 A. I'm on page 5. 14 Q. Okay. And your understanding 15 that condoms no longer are dusted with talc 16 comes from Kang, Griffin and Ellis 1992, and 17 Casper and Chandler 1995, as well as an 18 internal PCPC document and McCullough in 19 1996; is that right? 20 A. My understanding that there was 21 concern about talcum powder on condoms is 22 from the Kang, the Griffin and the Casper 23 articles, and then my understanding about 24 stopping dust in condoms was from the PCP</p>

<p style="text-align: right;">Page 18</p> <p>1 document and the McCullough document. 2 Q. Have you reviewed the 3 epidemiology as it relates to whether or not 4 there is an increased risk for ovarian cancer 5 as a result of talc-dusted condoms? 6 MS. O'DELL: Object to the 7 form. 8 A. The papers, the Kang, the 9 Griffin and the Casper paper, that's part of 10 what they were looking at. 11 BY MS. BROWN: 12 Q. And are you familiar with what 13 the conclusion of the body of studies looking 14 at talc-dusted condoms in ovarian cancer 15 conclude? 16 MS. O'DELL: Dr. Wolf, if 17 you -- you have your records here. If 18 you'd like to look at them, you're 19 certainly welcome to do that. 20 THE WITNESS: Let me get that. 21 BY MS. BROWN: 22 Q. Doctor, if you would, just 23 identify the document you're looking at for 24 us on the record.</p>	<p style="text-align: right;">Page 20</p> <p>1 directly talk about ovarian cancer, but the 2 fact that the powder causes inflammation 3 would lead me to be concerned about that. 4 Q. Okay. And we're going to talk 5 about inflammation. But you cited this Kang 6 paper for the proposition that concerns were 7 raised in the medical literature regarding 8 ovarian cancer for talc being used on 9 condoms. Does this paper speak to that in 10 your mind, Doctor? 11 MS. O'DELL: Object to the 12 form, asked and answered. 13 A. It specifically talks about 14 inflammation from this, which inflammation is 15 related to ovarian cancer. 16 BY MS. BROWN: 17 Q. Is it your understanding, 18 Doctor, that all inflammation leads to 19 ovarian cancer? 20 A. It's my understanding, from 21 reviewing the literature and my own knowledge 22 from practicing GYN oncology and doing the 23 research in it over the years, is that it's 24 more the concern of chronic inflammation</p>
<p style="text-align: right;">Page 19</p> <p>1 A. So I'm looking at the Kang, 2 Griffin and Ellis paper right now. 3 Q. Okay. Great. 4 (Witness reviews document.) 5 A. Now I'm looking at the Casper 6 paper. 7 BY MS. BROWN: 8 Q. And before we move the -- move 9 from the Kang paper, Doctor, is there 10 anything in the Kang paper that informs your 11 view about whether or not there's an 12 increased risk of ovarian cancer with 13 talc-dusted condoms? 14 A. This paper is just looking at 15 the pathologic changes from talc powder on 16 gloves or condoms and is looking at 17 pathologic changes in the intraabdominal 18 cavity. It doesn't specifically look at the 19 risk of ovarian cancer. 20 Multiple other papers, both 21 prior and subsequent to this, though, 22 indicate that inflammation is an important 23 part in the development of ovarian cancer, 24 and so it does -- this paper does not</p>	<p style="text-align: right;">Page 21</p> <p>1 versus acute inflammation. 2 When I look at the pathology of 3 ovarian tumors, sometimes we see a lot of 4 chronic, sometimes we see a mix of chronic 5 and acute inflammation, sometimes you don't 6 see inflammation. That doesn't mean it's not 7 there; it just means it's not there in the 8 slide that you're looking at. But in 9 general, more concern about chronic 10 inflammation. 11 Q. Because, Doctor, you would 12 agree, that you can certainly have 13 inflammation that does not cause cancer, 14 right? 15 MS. O'DELL: Object to the 16 form. 17 A. Inflammation itself doesn't 18 always cause cancer. However, inflammation 19 has been correlated with the development of 20 ovarian cancer in multiple studies, and since 21 the '30s, it's been suggested in the 22 implication of all cancers -- or many cancers 23 anyway. I'll stop there. 24</p>

<p style="text-align: right;">Page 22</p> <p>1 BY MS. BROWN: 2 Q. Would you agree, Doctor, that 3 the inflammation that was being caused by 4 powders on surgical gloves was not 5 inflammation that was -- was suspected of 6 leading to cancer? 7 MS. O'DELL: Object to the 8 form. 9 A. I can't -- I don't know that I 10 can say that, because if there's deposits of 11 talc from the surgical gloves into the 12 abdominal cavity and it stays there because 13 it's not dissolved, that can lead to chronic 14 inflammation. 15 BY MS. BROWN: 16 Q. Do you have any -- can you cite 17 any evidence in the medical literature of 18 talc from surgical gloves causing a 19 procancerous inflammatory response? 20 MS. O'DELL: Object to the 21 form. 22 A. Can you define for me what you 23 mean by a "procancer inflammatory response"? 24 BY MS. BROWN:</p>	<p style="text-align: right;">Page 24</p> <p>1 BY MS. BROWN: 2 Q. Just for the record, Doctor, 3 the lawyer for the plaintiffs has asked that 4 you be able to look at the transcript of my 5 questions and your answers, to assist you 6 with your testimony under oath here today; is 7 that right? 8 MS. O'DELL: No, actually, 9 she's -- she's had it there, not to 10 assist her, but just to make sure 11 she's read the -- understood the 12 question correctly. I'll put it that 13 way. You can answer. 14 BY MS. BROWN: 15 Q. Just for the record, you'll be 16 looking at the realtime questions and answers 17 and testifying here today; is that right? 18 A. That's my understanding, yes. 19 So now I'm going to have to ask 20 you to repeat the question. 21 Q. Fair enough, Doctor. We were 22 talking a little bit about talcum powder on 23 surgical gloves. Do you remember that? 24 A. Yes.</p>
<p style="text-align: right;">Page 23</p> <p>1 Q. Sure. Can you cite us any 2 evidence in the medical literature that talc 3 from surgical gloves led to chronic 4 inflammation that caused cancer. 5 MS. O'DELL: Object to the 6 form. 7 A. I can cite literature that talc 8 from surgical gloves causes inflammation and 9 there is the concern that it leads to cancer. 10 BY MS. BROWN: 11 Q. Okay. And for the proposition, 12 the second part of what you're testifying 13 about, the concern that surgical gloves were 14 causing, not just granulomas or adhesions or 15 foreign body reactions, but cancer, but what 16 literature are you relying on for that 17 proposition? 18 MS. O'DELL: Object to the 19 form. Excuse me just for a minute. 20 Micheal, would you make the screen -- 21 I don't know how that -- 22 THE WITNESS: So I can see it. 23 MS. O'DELL: Yes. 24</p>	<p style="text-align: right;">Page 25</p> <p>1 Q. And is it your opinion that 2 talcum powder that was used on surgical 3 gloves could lead to cancer? 4 A. It's my opinion that talcum 5 powder generally has a concern for 6 carcinogenesis, and because it was known to 7 cause inflammation in adhesions, it has been 8 removed from surgical gloves and from 9 condoms. 10 Q. And what are you relying on for 11 your understanding that dusting powders were 12 removed from surgical gloves because of a 13 concern for cancer? 14 A. I believe that we've already 15 talked about that, the PCPC report that's 16 referenced on page 5 in my report. 17 Q. Okay. So that's an internal 18 company document that you cite in connection 19 with condoms, right? 20 A. Yes. 21 Q. Okay. And so my question was a 22 little bit different, which is, what 23 scientific literature are you relying on to 24 support your opinion that dusting powder on</p>

<p style="text-align: right;">Page 26</p> <p>1 surgical gloves can lead to cancer? 2 MS. O'DELL: Object to the 3 form. 4 A. I'm going to give you the same 5 answer that I think I've given before is 6 that, the concern is that dusting powder on 7 surgical gloves has been shown to cause 8 inflammation and then that inflammation can 9 lead to cancer. 10 BY MS. BROWN: 11 Q. And my question's just a little 12 bit different, which is, I'm asking you to 13 identify the scientific literature on which 14 you rely for that opinion, and "that opinion" 15 being that powders on surgical gloves can 16 cause cancer? 17 MS. O'DELL: Object to the 18 form, asked and answered. That's 19 probably the third time the question's 20 been repeated. 21 Dr. Wolf, you're welcome to 22 respond to the question. 23 A. I have the same answer that I 24 gave before. And powder has been removed</p>	<p style="text-align: right;">Page 28</p> <p>1 A. So the studies suggest -- or 2 show inflammation after talcum powder on -- 3 or talc, talcum powder product on surgical 4 gloves, dusting powder, and therefore it was 5 taken off the market. I am not aware of a 6 study where talcum-dusted, dusting powdered 7 gloves was used to see if it caused cancer. 8 I believe that would be unethical. And so 9 the concern that there is inflammation was 10 enough that that was pulled off the market. 11 Q. Okay. And when you talk about 12 "unethical," you're talking about running a 13 randomized, controlled clinical trial, right? 14 A. A prospective study of any 15 kind. 16 Q. Sure. And certainly it would 17 not be unethical to look at people who have 18 had operations with surgical gloves to study 19 this issue, correct? 20 MS. O'DELL: Object to the 21 form. 22 A. So you're -- could you 23 retrospectively look and see if people who 24 had surgery with powdered gloves got cancer</p>
<p style="text-align: right;">Page 27</p> <p>1 from surgical gloves because of the concern 2 of adhesions and inflammation. 3 BY MS. BROWN: 4 Q. I understand that testimony 5 perfectly. And maybe we're just not 6 connecting, Dr. Wolf. I understand your 7 opinion, and what I'm asking is, for the 8 scientific support for that opinion. And so 9 what information are you relying on that 10 dusting powders on surgical gloves can cause 11 cancer? 12 MS. O'DELL: Object to the 13 form, asked and answered the sixth 14 time. 15 A. My understanding is what you're 16 asking me is, can I cite you a paper that 17 says that dusting powder on surgical gloves 18 causes cancer? 19 BY MS. BROWN: 20 Q. My question to you is, what is 21 the scientific support, what articles in the 22 scientific literature, what studies have you 23 looked at that brings you to that conclusion? 24 If it's a paper, then we'll take the paper.</p>	<p style="text-align: right;">Page 29</p> <p>1 more than those that did not? Is that what 2 you're asking me? 3 BY MS. BROWN: 4 Q. Sure. What I'm trying to clear 5 up is, you didn't mean to suggest this is an 6 area of science that cannot be studied. 7 Fair? 8 MS. O'DELL: Object to the 9 form. 10 A. My suggestion would be that it 11 would be an area of study that would be 12 challenging to study. I'm not saying it 13 couldn't be. I'm saying it could be 14 challenging. 15 BY MS. BROWN: 16 Q. Have you reviewed, in 17 connection with your opinions in this case, 18 the reasoning of the FDA when they banned 19 powders on surgical gloves? 20 A. I don't recall that I have. 21 Q. Are you aware of whether or not 22 the FDA made a determination about whether or 23 not the science supported your opinion here, 24 that use of powders on gloves can lead to</p>

<p style="text-align: right;">Page 30</p> <p>1 cancer?</p> <p>2 A. I don't recall.</p> <p>3 Q. Do you consider the FDA to be a</p> <p>4 reliable public health authority?</p> <p>5 MS. O'DELL: Object to the</p> <p>6 form.</p> <p>7 A. I consider that the FDA does</p> <p>8 its best to be a reliable health authority.</p> <p>9 The FDA, or any agency, is not without the</p> <p>10 ability to make a wrong decision or a</p> <p>11 decision that they later change.</p> <p>12 BY MS. BROWN:</p> <p>13 Q. Do you consider the work that</p> <p>14 scientists at the FDA do in connection with</p> <p>15 public health issues, to be important to</p> <p>16 consider in forming your opinions regarding</p> <p>17 scientific theories?</p> <p>18 MS. O'DELL: Object to the</p> <p>19 form.</p> <p>20 A. I think it's a piece of</p> <p>21 information to consider.</p> <p>22 BY MS. BROWN:</p> <p>23 Q. And as it relates to your</p> <p>24 opinion about dusting powders on surgical</p>	<p style="text-align: right;">Page 32</p> <p>1 to answer a question and pulled it today</p> <p>2 or -- or gave it today because they actually</p> <p>3 use very similar methods.</p> <p>4 Q. Do you consider the</p> <p>5 International Agency on the Research of</p> <p>6 Cancer to be a respected public health</p> <p>7 authority?</p> <p>8 A. I do.</p> <p>9 Q. Do you look to the research</p> <p>10 that the scientists at IARC do, when</p> <p>11 considering your own evaluation of scientific</p> <p>12 theories?</p> <p>13 A. I do.</p> <p>14 Q. Do you think that IARC is</p> <p>15 generally an impartial body that endeavors to</p> <p>16 do the best research it can on cancer?</p> <p>17 A. I do.</p> <p>18 Q. And have you considered IARC's</p> <p>19 conclusions as it relates to the opinions</p> <p>20 that you've provided in your report, your MDL</p> <p>21 report?</p> <p>22 A. Yes. I considered them amongst</p> <p>23 many things.</p> <p>24 Q. Sure. Is there anything</p>
<p style="text-align: right;">Page 31</p> <p>1 gloves, you have not had the opportunity to</p> <p>2 review the FDA's research on that score; is</p> <p>3 that fair?</p> <p>4 A. That's correct.</p> <p>5 Q. Another item, Doctor, that</p> <p>6 counsel for plaintiffs handed me before we</p> <p>7 began the deposition, I will mark as</p> <p>8 Exhibit 3, and it is the preamble to the IARC</p> <p>9 monograph -- IARC monographs from the</p> <p>10 evaluation of carcinogenic risk to humans.</p> <p>11 This is an amendment of January 2006.</p> <p>12 (Deposition Exhibit 3 marked</p> <p>13 for identification.)</p> <p>14 BY MS. BROWN:</p> <p>15 Q. I can hand you the copy we've</p> <p>16 marked. Let me know -- first of all, when</p> <p>17 did you review the preamble, Doctor?</p> <p>18 A. When I looked at the IARC</p> <p>19 monographs more than a year ago, I read the</p> <p>20 whole thing, but this preamble specifically I</p> <p>21 re-reviewed a few days ago when I pulled the</p> <p>22 UpToDate article about evidence-based</p> <p>23 medicine, to see how they review -- what</p> <p>24 methods they used to review a subject to try</p>	<p style="text-align: right;">Page 33</p> <p>1 different between the UpToDate source that</p> <p>2 you provided as Exhibit 2 and the preamble</p> <p>3 that you've directed us to on Exhibit 3?</p> <p>4 MS. O'DELL: Object to the</p> <p>5 form.</p> <p>6 BY MS. BROWN:</p> <p>7 Q. That wasn't a great question.</p> <p>8 Do you find that Exhibit 2, the UpToDate</p> <p>9 summary of evidence-based medicine, is</p> <p>10 generally in concert with the preamble to the</p> <p>11 IARC monographs?</p> <p>12 A. I think in general, it is. I</p> <p>13 think that the UpToDate evidence-based</p> <p>14 medicine article is something that I as a MD,</p> <p>15 a clinician, a practicing doctor, this is how</p> <p>16 I think about questions. How IARC thinks</p> <p>17 about it may not be exactly the same, but the</p> <p>18 general principles are the same.</p> <p>19 Q. Is UpToDate a peer-reviewed</p> <p>20 publication, do you know, Doctor?</p> <p>21 A. It is a peer-reviewed</p> <p>22 publication. I would say it's -- it is.</p> <p>23 Q. And what knowledge do you have</p> <p>24 about the peer-reviewed process for the</p>

<p style="text-align: right;">Page 34</p> <p>1 UpToDate articles?</p> <p>2 A. I don't know their peer review</p> <p>3 process. I've never put any article into</p> <p>4 UpToDate. So I don't understand -- I don't</p> <p>5 know the details of it.</p> <p>6 Q. Okay. What basis do you have</p> <p>7 for saying that the UpToDate information</p> <p>8 you've provided as Exhibit 2 is peer</p> <p>9 reviewed?</p> <p>10 A. Well, it's my understanding</p> <p>11 that it is. Like any article that's</p> <p>12 published in the medical literature, there's</p> <p>13 usually some kind of reviewed process, where</p> <p>14 the editor receives it and asks a panel of</p> <p>15 experts to comment on it.</p> <p>16 Q. Okay. But this UpToDate</p> <p>17 information, that's not published in a</p> <p>18 medical journal, right?</p> <p>19 A. It's published online.</p> <p>20 Q. Right.</p> <p>21 A. As many medical literature now</p> <p>22 is published online, not in a hard journal.</p> <p>23 Q. Okay. But to be fair, you're</p> <p>24 not aware of whether or not the information</p>	<p style="text-align: right;">Page 36</p> <p>1 A. That's correct.</p> <p>2 Q. So as it relates to the</p> <p>3 opinions in your report, dated November 16,</p> <p>4 2018, the Saed manuscript that we've marked</p> <p>5 as Exhibit 4, did not inform those opinions;</p> <p>6 is that fair?</p> <p>7 A. That's correct.</p> <p>8 MS. O'DELL: Object to the</p> <p>9 form.</p> <p>10 A. I had an abstract that has some</p> <p>11 of this data that had been accepted to the</p> <p>12 SGO meeting for this year, but I did not have</p> <p>13 the entire report.</p> <p>14 BY MS. BROWN:</p> <p>15 Q. The next piece of information</p> <p>16 that counsel for plaintiffs provided, is a</p> <p>17 list of your invoices.</p> <p>18 (Deposition Exhibit 5 marked</p> <p>19 for identification.)</p> <p>20 BY MS. BROWN:</p> <p>21 Q. Did you type these invoices,</p> <p>22 Dr. Wolf?</p> <p>23 A. Yes.</p> <p>24 Q. Okay. And so it looks like</p>
<p style="text-align: right;">Page 35</p> <p>1 you've provided as Exhibit 2 has gone through</p> <p>2 the formal peer-reviewed process, as we know</p> <p>3 it, as it relates to medical journals?</p> <p>4 MS. O'DELL: Object to the</p> <p>5 form, misstates her testimony.</p> <p>6 A. I don't understand -- I don't</p> <p>7 know the details of their peer review</p> <p>8 process.</p> <p>9 BY MS. BROWN:</p> <p>10 Q. Fair enough. Counsel for the</p> <p>11 plaintiff also provided us with a manuscript,</p> <p>12 which we'll mark as Exhibit 4.</p> <p>13 (Deposition Exhibit 4 marked</p> <p>14 for identification.)</p> <p>15 BY MS. BROWN:</p> <p>16 Q. And this is a manuscript, one</p> <p>17 of the coauthors is Dr. Saed. Can you tell</p> <p>18 me, Doctor, when you reviewed the manuscript</p> <p>19 that we've marked as Exhibit 4?</p> <p>20 A. I received this manuscript and</p> <p>21 reviewed it on Friday, whatever date that</p> <p>22 was. I think the 4th of January.</p> <p>23 Q. And so this is something you</p> <p>24 have recently taken a look at; is that right?</p>	<p style="text-align: right;">Page 37</p> <p>1 there's actually a little different format</p> <p>2 between the first invoice, which appears to</p> <p>3 be January 2017, and later invoices; is that</p> <p>4 right?</p> <p>5 A. Can I see those, please?</p> <p>6 Q. Yeah, absolutely. I only have</p> <p>7 one copy, so we'll have to share.</p> <p>8 A. This is me. I typed this.</p> <p>9 Q. Okay.</p> <p>10 MS. O'DELL: We'll just say,</p> <p>11 for the record, the invoice in the</p> <p>12 form was done for purposes of my</p> <p>13 office paying it. So that's the</p> <p>14 format we use.</p> <p>15 But Dr. Wolf, you can explain</p> <p>16 how you conveyed your hours.</p> <p>17 A. Yes. I mean, this is how I</p> <p>18 sent them every time.</p> <p>19 BY MS. BROWN:</p> <p>20 Q. Okay.</p> <p>21 A. In an e-mail like this. I --</p> <p>22 this might be attached to my payment, but I</p> <p>23 hadn't really seen this form.</p> <p>24 Q. Okay. That's helpful. So a</p>

<p style="text-align: right;">Page 38</p> <p>1 few follow-up questions, if I can grab that 2 back from you. As I understand it, Dr. Wolf, 3 the very first page of Exhibit 5, which is 4 entitled "Judith Wolf, Medical Expert Hours," 5 January 2017, at \$600 an hour, that's a 6 document you typed. Fair? 7 A. That's correct. 8 Q. Okay. And for each subsequent 9 invoice, you typed a document similar to the 10 first page of Exhibit 5. True? 11 A. Yes. 12 Q. Okay. And the remaining pages 13 of Exhibit 5 have sort of a -- a different 14 format. Would you agree? 15 A. The hours look the same, but -- 16 I mean the format of the hours look the same, 17 but the invoice at the top, no -- yes, that 18 looks different. 19 Q. Right. And I'm not trying to 20 be tricky, but you didn't type everything 21 after page 1 of Exhibit 5; is that fair? 22 MS. O'DELL: What I'm 23 conveying -- what I said. 24 MS. BROWN: Let's get an answer</p>	<p style="text-align: right;">Page 40</p> <p>1 invoices that Dr. Wolf sent to Beasley 2 Allen. For the record, what we have 3 are four additional pages of 4 Exhibit 5, which appear to be have 5 been generated by Beasley Allen. So 6 we'll request the underlying invoices 7 that came from the doctor. 8 MS. O'DELL: Fair enough. 9 MS. BROWN: Thank you. 10 MS. O'DELL: I would just note 11 for the record, just so there's no 12 suggestion otherwise, those are 13 contemporaneously provided. There's 14 no generation of that in conjunction 15 with this deposition. So I'm happy to 16 provide -- 17 MS. BROWN: And to be fair, I 18 don't mean to suggest anything 19 untoward. 20 MS. O'DELL: I want the record 21 to be clear. 22 MS. BROWN: As do we. 23 MS. O'DELL: So I will -- happy 24 to ask my office for the other</p>
<p style="text-align: right;">Page 39</p> <p>1 and then I'm happy to have you make 2 the statement for the record. I just 3 want an answer to that question. 4 MS. O'DELL: That's fair. You 5 can answer the question. 6 A. I didn't type the other ones. 7 MS. O'DELL: So the invoice was 8 prepared after the hours were 9 submitted to my office for purposes of 10 facilitating payment. So the data -- 11 to be clear, the data that was 12 provided was from Dr. Wolf. 13 MS. BROWN: Understood. 14 BY MS. BROWN: 15 Q. When you invoice the lawyers at 16 Beasley Allen, do you send a document that 17 looks like page 1 of Exhibit 5? 18 A. Yes. 19 Q. Okay. And have you done that 20 for every invoice that you've submitted 21 through your work on this matter? 22 A. Yes. 23 MS. BROWN: Okay. So I'm going 24 to request production of the original</p>	<p style="text-align: right;">Page 41</p> <p>1 documents. 2 MS. BROWN: Terrific. And so 3 we'll request the original invoices 4 that came from Dr. Wolf. 5 BY MS. BROWN: 6 Q. A couple of questions, 7 Doctor -- 8 MS. O'DELL: There weren't 9 invoices. Fair enough. You've made 10 your statement, but that's not what 11 they were. 12 MS. BROWN: We're on the same 13 page. 14 MS. O'DELL: Not maybe -- maybe 15 we're not. But anyway, we will -- I 16 will ask for whatever the list was 17 that was originally received. 18 BY MS. BROWN: 19 Q. Now, Dr. Wolf, the first 20 document we have in Exhibit 5, includes the 21 hours that you billed to Beasley Allen for 22 your work in January 2017. True? 23 A. Yes. 24 Q. And the very first entry that</p>

<p style="text-align: right;">Page 42</p> <p>1 you have here is for a one and a half hour 2 meeting with Margaret Thompson. True? 3 A. Yes. 4 Q. Who is Margaret Thompson? 5 A. Margaret Thompson is one of the 6 attorneys for Beasley Allen. 7 Q. Okay. And how is it -- and 8 Ms. Thompson's here today; is that right? 9 A. Yes. She's sitting right 10 there. 11 Q. And how is it that you came to 12 meet Ms. Thompson? 13 A. So one of my neighbors, her 14 name is Ali Gallagher, lives in the same 15 building as I do. She is an attorney and 16 also a nurse practitioner by training. And I 17 met her at a social setting in the lobby of 18 my building. We have happy hours on Fridays. 19 And we sort of became friendly and talked and 20 then we became friends after that. She knows 21 what I do for a living. I'm a gynecologic 22 oncologist and take care of women with 23 ovarian cancer. 24 And one day we were talking</p>	<p style="text-align: right;">Page 44</p> <p>1 know. I know that they both have lived in 2 Austin for a long time. 3 BY MS. BROWN: 4 Q. When did this conversation take 5 place? 6 A. I don't remember. Sometime 7 before January of 2017, but I don't remember 8 the date. And it had to happen after 2015, 9 because I didn't meet her until then, so 10 sometime in that two-year period. 11 Q. Okay. And what did she tell 12 you about the question of talc and ovarian 13 cancer? 14 A. She was -- 15 MS. O'DELL: Are you referring 16 to Ms. Gallagher? 17 MS. BROWN: Yeah. Thank you. 18 BY MS. BROWN: 19 Q. I want to talk a little bit 20 about the conversation with Ms. Gallagher. 21 A. Yeah. 22 Q. As I understand it, this was 23 the first conversation you had regarding this 24 potential expert witness work; is that right?</p>
<p style="text-align: right;">Page 43</p> <p>1 about work, because she has a medical 2 background and lots of people ask me about 3 work, even if they don't. And we came about 4 talk -- she may have asked me, do I know 5 anything about talc and ovarian cancer, and I 6 said I was aware of articles about the risk 7 of talcum powder and ovarian cancer, and she 8 mentioned that she had a friend, a colleague, 9 who was working on a case. And I said I 10 would be interested in becoming more 11 involved, in learning more about it, so she 12 introduced us. 13 Q. To your knowledge, is 14 Ms. Gallagher an attorney at Beasley Allen? 15 A. To my knowledge, she is not. 16 Q. To your knowledge, is she a 17 plaintiffs' attorney? 18 A. To my knowledge, I don't really 19 know what kind of law she practices. 20 Q. Okay. And what is your 21 understanding of how Ms. Gallagher knows 22 Ms. Thompson? 23 MS. O'DELL: If you know. 24 A. You know what? I don't really</p>	<p style="text-align: right;">Page 45</p> <p>1 A. Yes. 2 Q. Okay. 3 A. So the conversation -- again, 4 the conversation happened more than two years 5 ago. My recollection was she asked me did I 6 know anything about the risk of ovarian 7 cancer in talcum powder use, and then we 8 started talking about it and I told her I 9 knew a little, I was aware of some 10 epidemiologic data suggesting it. And she 11 said she was asking because she had -- she 12 knew that there was some litigation about it. 13 And I said, one of my concerns with ovarian 14 cancer is there's very little we can do to 15 cure women. They present late, there's no 16 screening tests, the symptoms are nonspecific 17 and that if there's something that we can do 18 to prevent it, it would be helpful. And the 19 conversation went on and she asked me would I 20 be interested in talking to the people she 21 knew who were involved in the case, and I 22 said yes. 23 Q. And in 2015, where were you 24 working, Dr. Wolf?</p>

<p style="text-align: right;">Page 46</p> <p>1 A. In 2015, I was working for a 2 diagnostic company called Vermillion, and I 3 was doing some clinical medicine as locum 4 tenens covering practices here and there, 5 just so I could keep my clinical skills up. 6 Q. And where were you doing your 7 clinical medicine during your time at 8 Vermillion? 9 A. At -- in Atlanta and in 10 Indianapolis. 11 Q. What facility in Atlanta? 12 A. Northwest Memorial, I believe 13 is the name of the hospital. 14 Q. And what was the other location 15 where you performed -- 16 A. Community Health in 17 Indianapolis. 18 Q. And so were you a physician on 19 staff at both of those locations? 20 A. On staff at the hospital, yes. 21 Q. And Vermillion, of course, was 22 aware of your clinical practice as well? 23 A. Yes. 24 Q. Okay. And how many patients</p>	<p style="text-align: right;">Page 48</p> <p>1 patients I treated. I would say that, in 2 general, my practice in the last five years 3 has been about a third ovarian cancer and 4 about 50 percent endometrial cancer. 5 Prior to 2014, when I was 6 practicing full time GYN oncology, more than 7 50 percent of my practice was ovarian cancer 8 because patients came from around the country 9 to see me, specifically with that issue. 10 Q. And that was during the time 11 period you were practicing at MD Anderson? 12 A. In Houston at MD Anderson and 13 at Banner health -- Banner MD Anderson in 14 Arizona. 15 Q. And as I understand, you left 16 MD Anderson to go to Vermillion, correct? 17 A. I left MD Anderson in Houston 18 to go to MD Anderson in Arizona. I left 19 Arizona to go to Vermillion. 20 Q. Okay. And then from Vermillion 21 you went to another start-up? 22 A. Provista Diagnostics, yes. 23 Q. Did you continue to treat 24 patients while you were at Provista?</p>
<p style="text-align: right;">Page 47</p> <p>1 would you say you were treating at that time? 2 A. You know, I was only 3 intermittently treating, so I can't really 4 give you a number. I don't know. 5 Q. Did you have set office hours 6 or hospital hours during that time period? 7 A. In Atlanta, I covered probably 8 three or four weeks a year when the doctors 9 were on vacation. In Indianapolis, when I 10 started, that's what I was doing. There was 11 one doctor and when he was gone, there was no 12 one to cover. 13 Q. Fair to say clinical medicine 14 was a small part of your practice during the 15 time period you were at Vermillion? 16 A. Yes. 17 Q. Did you treat any ovarian 18 cancer patients during the time period you 19 worked for Vermillion? 20 A. Yes. 21 Q. About how many patients would 22 you estimate you treated during that time 23 period? 24 A. I don't remember how many</p>	<p style="text-align: right;">Page 49</p> <p>1 A. I did. 2 Q. At the same two locations? 3 A. I don't believe I covered any 4 more in Atlanta, because the need was greater 5 in Indianapolis and, in fact, the last year 6 that I was working at Provista, I was 7 covering one week a month in Indiana. 8 Q. In what states are you licensed 9 to practice medicine? 10 A. My active licenses are in 11 Indiana, Georgia and Arizona. 12 Q. And you no longer have an 13 active license in Texas; is that right? 14 A. That's correct. 15 Q. Any other states that are no 16 longer active for you? 17 A. Minnesota. 18 Q. And then as I understand it, 19 you left Provista in about January of 2017? 20 A. No, I left Provista just -- my 21 official last day was October 1st of 2018. 22 Q. And so during part of the time 23 when you began your expert work for the 24 plaintiffs' lawyers in the talc litigation,</p>

<p style="text-align: right;">Page 50</p> <p>1 you were working at Provista; is that right?</p> <p>2 A. That's correct.</p> <p>3 Q. Okay. Did you do any of</p> <p>4 work -- any expert work for plaintiffs'</p> <p>5 lawyers in the talc litigation while you were</p> <p>6 working at Vermillion?</p> <p>7 A. Let me think about that. Yes,</p> <p>8 I believe I did.</p> <p>9 Q. Did you disclose to Vermillion</p> <p>10 your work for plaintiffs' lawyers in the talc</p> <p>11 litigation?</p> <p>12 MS. O'DELL: If you did -- if</p> <p>13 you did any work during that time</p> <p>14 period.</p> <p>15 A. Yeah, I don't recall. I don't</p> <p>16 recall.</p> <p>17 BY MS. BROWN:</p> <p>18 Q. Do you recall if Vermillion had</p> <p>19 a policy about its officials doing expert</p> <p>20 witness work?</p> <p>21 A. My recollection was that they</p> <p>22 did not have a policy.</p> <p>23 Q. And what were the circumstances</p> <p>24 that led to you leaving Provista in October</p>	<p style="text-align: right;">Page 52</p> <p>1 of your time would you say is devoted to</p> <p>2 treating patients at the Community Health</p> <p>3 Network?</p> <p>4 A. 60.</p> <p>5 MS. O'DELL: Just for</p> <p>6 clarification, are you asking for her</p> <p>7 time she's working at Community Health</p> <p>8 in Indianapolis, what percentage of</p> <p>9 her time is devoted to treating</p> <p>10 patients, or are you asking overall?</p> <p>11 It was just confusing.</p> <p>12 MS. BROWN: So the question --</p> <p>13 I'm looking at the real time. The</p> <p>14 question said, "devoted to treating</p> <p>15 patients at Community Health Network."</p> <p>16 MS. O'DELL: Okay. Thank you.</p> <p>17 BY MS. BROWN:</p> <p>18 Q. Doctor, the final document that</p> <p>19 the lawyer for the plaintiffs, Ms. O'Dell</p> <p>20 gave me this morning, is -- we will mark as</p> <p>21 Exhibit 6, which appears to be an updated CV</p> <p>22 for you, dated January 4th, 2017.</p> <p>23 (Deposition Exhibit 6 marked</p> <p>24 for identification.)</p>
<p style="text-align: right;">Page 51</p> <p>1 of 2018?</p> <p>2 A. Provista? I could see that the</p> <p>3 company was having trouble getting funding,</p> <p>4 and, in fact, on October 1st, 2018, the</p> <p>5 company shut down. And so I had already been</p> <p>6 looking and I knew that Indiana wanted me to</p> <p>7 come there, so...</p> <p>8 Q. So when you say "the company</p> <p>9 shut down," what do you mean by that?</p> <p>10 A. They dissolved.</p> <p>11 Q. Was there any investigation</p> <p>12 into the company that led to the dissolution?</p> <p>13 A. No, it was just -- ran out of</p> <p>14 money, couldn't find new investors.</p> <p>15 Q. And since October of 2018,</p> <p>16 you've been working at the Indiana --</p> <p>17 Indianapolis location?</p> <p>18 A. Yes.</p> <p>19 Q. Okay. What's the name of that?</p> <p>20 A. Community Health Network.</p> <p>21 Q. And you're a physician there</p> <p>22 part-time; is that right?</p> <p>23 A. That's correct.</p> <p>24 Q. And how many -- what percentage</p>	<p style="text-align: right;">Page 53</p> <p>1 BY MS. BROWN:</p> <p>2 Q. Do you have a copy in front of</p> <p>3 you?</p> <p>4 A. Yes, I do.</p> <p>5 Q. So the copy that was attached</p> <p>6 to your report, I believe was dated 2016.</p> <p>7 A. Yes.</p> <p>8 Q. Now, why would that be?</p> <p>9 A. Because from the time I started</p> <p>10 working with a company actually, I haven't</p> <p>11 had an assistant to help me update it and I'm</p> <p>12 not -- I haven't been good at keeping it</p> <p>13 updated.</p> <p>14 Q. Well, here's what I'm trying to</p> <p>15 understand. We got Exhibit 6, which is dated</p> <p>16 January of 2017, correct?</p> <p>17 A. Oh, it should be 2018. That's</p> <p>18 my -- see, I'm not a good typist.</p> <p>19 Q. Okay. So the correct date of</p> <p>20 Exhibit 6 is really January 4th, 2018?</p> <p>21 A. That's correct.</p> <p>22 MS. O'DELL: Should it be 2019?</p> <p>23 A. '19. '19.</p> <p>24</p>

<p style="text-align: right;">Page 54</p> <p>1 BY MS. BROWN: 2 Q. Okay. I think we're all on the 3 same page now. All right. And you've 4 updated this with additional employment that 5 you've had -- 6 A. Yes. 7 Q. -- since the time of your 8 last -- 9 A. And a few publications that 10 weren't on there. 11 Q. Have you ever -- just to speak 12 generally about your resumé, Doctor, have you 13 ever published any peer-reviewed article 14 regarding talcum powder and ovarian cancer? 15 A. No. 16 Q. Have you ever given any 17 presentation regarding talcum powder and 18 ovarian cancer? 19 A. No. 20 Q. Have you ever been invited to 21 speak at any conference that dealt with 22 issues regarding talcum powder and ovarian 23 cancer? 24 A. No.</p>	<p style="text-align: right;">Page 56</p> <p>1 A. In the popular press, I have 2 talked about the use of birth control pills 3 to reduce the risk of ovarian cancer, I've 4 talked about the symptoms of ovarian cancer, 5 I've talked about some of my research and 6 treatment of ovarian cancer. I don't recall 7 that I specifically talked about the risk of 8 ovarian cancer. 9 Q. Do you recall -- have you ever 10 spoken -- have you ever gone on any -- strike 11 that. 12 Have you ever done any news 13 interviews in which you have indicated your 14 opinion in this case, which is that you 15 believe that talc -- talcum powder causes 16 ovarian cancer? 17 A. I have not. But until I 18 started reviewing all the literature for this 19 case, I was generally aware of some 20 epidemiologic studies, but I wasn't as 21 convinced after reviewing the entire body of 22 literature that I was able to review, that 23 talcum powder causes ovarian cancer in some 24 women and puts all women who use it at risk</p>
<p style="text-align: right;">Page 55</p> <p>1 Q. I've seen over the years, 2 Doctor, you've done some popular press and 3 news segments; is that right? 4 A. Yes. 5 Q. Have you ever given any news 6 interviews regarding talcum powder and 7 ovarian cancer? 8 A. No. 9 Q. You have, however, been an 10 advocate for women's health issues over the 11 years, correct? 12 A. Yes. 13 MS. O'DELL: Object to the 14 form. 15 BY MS. BROWN: 16 Q. And you've given a number of 17 issues -- a number of interviews regarding 18 ovarian cancer; is that fair? 19 A. Yes. 20 Q. Including the causes of ovarian 21 cancer. True? 22 A. In the popular -- are you 23 asking me about in the popular press? 24 Q. Uh-huh.</p>	<p style="text-align: right;">Page 57</p> <p>1 for ovarian cancer. 2 Q. Prior to being hired as an 3 expert witness for plaintiff lawyers in the 4 talcum powder litigation, you, Dr. Wolf, were 5 not as convinced that talcum powder causes 6 ovarian cancer. True? 7 MS. O'DELL: Object to the 8 form, misstates her testimony. 9 A. Prior to being hired, I hadn't 10 reviewed all the literature to be able to 11 formulate my opinion. 12 BY MS. BROWN: 13 Q. Prior to being hired by 14 plaintiffs' lawyers in the talcum powder 15 litigation, you did not hold the opinion that 16 talcum powder causes ovarian cancer, correct? 17 MS. O'DELL: Object to the 18 form. 19 A. Prior to reviewing all the 20 literature for this case, I wasn't aware of 21 all the literature. I would say that I was 22 aware that there was some indication that 23 talcum powder increased the risk of ovarian 24 cancer. What I was always told when I</p>

<p style="text-align: right;">Page 58</p> <p>1 brought that up was that, not to worry, 2 talcum powder doesn't contain asbestos 3 anymore and so that data is old and it 4 doesn't matter. 5 After reviewing all the 6 literature and the information that I have 7 seen, I don't believe that's true anymore. 8 BY MS. BROWN: 9 Q. You have formed the opinion 10 that talcum powder causes ovarian cancer 11 since being hired by the plaintiffs' lawyers 12 in the talcum powder litigation, correct? 13 MS. O'DELL: Object to the 14 form. 15 A. I want to think about how I 16 want to answer that, because the question is 17 a little confusing to me because I believe 18 what I said was, until I was aware of all of 19 the literature and looked at it as a whole, 20 all of the evidence, I hadn't formed the 21 opinion that talcum powder causes ovarian 22 cancer. I knew there was data that suggests 23 that talcum powder product increases the risk 24 of ovarian cancer and once I had all the</p>	<p style="text-align: right;">Page 60</p> <p>1 A. Twenty-four years. 2 Q. And for the 24 years that you 3 practiced as a gynecologic oncologist prior 4 to being hired by the plaintiffs' lawyers, it 5 was not your regular practice to ask your 6 patients if they used talcum powder. True? 7 MS. O'DELL: Object to the 8 form. 9 A. Prior to reviewing all the 10 literature and becoming convinced that it was 11 a concern, it was not my regular practice. 12 BY MS. BROWN: 13 Q. And you keep answering the 14 question by saying "prior to reviewing all 15 the literature." You reviewed all of the 16 literature at the request of the plaintiffs' 17 lawyers, correct? 18 MS. O'DELL: Object to the 19 form, asked and answered. 20 A. I reviewed all the literature 21 when I got -- when I wanted to learn more 22 about it, to become involved with deciding on 23 my own, whether this was something that I 24 should be concerned about. And if I reviewed</p>
<p style="text-align: right;">Page 59</p> <p>1 information, I fully believe it. And now I 2 tell all my patients, whether they have 3 ovarian cancer or not, not to use it or to 4 stop using it if they are. I tell all my 5 friends and family the same thing. 6 BY MS. BROWN: 7 Q. Prior to reviewing all of the 8 literature regarding talcum powder and 9 ovarian cancer, it was not your practice, as 10 a gynecologic oncologist, to tell your 11 patients not to use talcum powder. True? 12 A. Prior to reviewing all the 13 literature, it was not my practice to tell 14 patients, but I believe that I was naive, and 15 that when I take care of patients that come 16 to me that have cancer or they think they 17 have cancer, this was not something that I 18 focused on because I wasn't spending my time 19 reviewing all the literature. 20 Q. You practiced, Doctor, as a 21 gynecologic oncologist in a number of 22 different institutions for nearly 30 years 23 before being hired by plaintiffs' lawyers; is 24 that true?</p>	<p style="text-align: right;">Page 61</p> <p>1 the literature and felt there was no concern, 2 I would have a different opinion. 3 BY MS. BROWN: 4 Q. You reviewed all of the 5 literature regarding talcum powder and 6 ovarian cancer at the request of the 7 plaintiffs' lawyers, correct? 8 A. You're asking me at the 9 "request," and I -- that's the word that I'm 10 not -- I don't recall that being asked, but 11 the question at hand was, does talcum powder 12 cause ovarian cancer? 13 Q. I think I understand the 14 disconnect. You reviewed all of the 15 literature regarding talcum powder and 16 ovarian cancer in connection with your work 17 to answer a question that the plaintiffs' 18 lawyers asked you; is that fair? 19 A. In connection with this work, I 20 reviewed all of the literature. 21 Q. Okay. So if we wanted to date 22 the time at which you formed the opinion that 23 talcum powder causes ovarian cancer, it would 24 be after the time that you were hired by the</p>

<p style="text-align: right;">Page 62</p> <p>1 plaintiffs' lawyers, correct?</p> <p>2 A. I would say the date that I was</p> <p>3 convinced that talcum powder products cause</p> <p>4 ovarian cancer was after I reviewed all the</p> <p>5 literature. Prior to that, I knew that there</p> <p>6 was some papers that suggested there was a</p> <p>7 risk, but I didn't review all the literature</p> <p>8 to formulate an opinion about it.</p> <p>9 Q. And the reason that you</p> <p>10 formulated an opinion by reviewing all of the</p> <p>11 literature, was because you had been hired as</p> <p>12 an expert witness by plaintiffs' lawyers.</p> <p>13 True?</p> <p>14 MS. O'DELL: Object to the</p> <p>15 form.</p> <p>16 A. I'm confused with the question.</p> <p>17 Because --</p> <p>18 BY MS. BROWN:</p> <p>19 Q. Well, let me see if I can</p> <p>20 orient you, Dr. Wolf. Here's what we're</p> <p>21 trying to understand. I understand your</p> <p>22 testimony was that for about 24 years as a</p> <p>23 practicing gynecologic oncologist, the</p> <p>24 potential association between talcum powder</p>	<p style="text-align: right;">Page 64</p> <p>1 health publications and went on TV shows,</p> <p>2 like Dr. Oz. True?</p> <p>3 A. Yes.</p> <p>4 MS. O'DELL: Object to the</p> <p>5 form.</p> <p>6 BY MS. BROWN:</p> <p>7 Q. And during those 24 years, you</p> <p>8 did not publish, write or speak about the</p> <p>9 opinion that talcum powder causes ovarian</p> <p>10 cancer, correct?</p> <p>11 A. What I published was my</p> <p>12 research, which was not on talcum powder</p> <p>13 products and ovarian cancer. What I spoke</p> <p>14 about was what I was asked to speak about,</p> <p>15 which was not talcum powder and ovarian</p> <p>16 cancer. When I was on the public -- when I</p> <p>17 was on the television or in the news, there</p> <p>18 was specific questions that I was being asked</p> <p>19 to speak about. They were not talcum powder</p> <p>20 and ovarian cancer.</p> <p>21 Q. But to be fair, some of the</p> <p>22 questions you were asked about is, what</p> <p>23 increases a woman's risk for ovarian cancer,</p> <p>24 right?</p>
<p style="text-align: right;">Page 63</p> <p>1 and ovarian cancer was not something you</p> <p>2 were, quote, focused on; is that right?</p> <p>3 MS. O'DELL: Object to the</p> <p>4 form.</p> <p>5 A. It's not something that I was</p> <p>6 researching.</p> <p>7 BY MS. BROWN:</p> <p>8 Q. Okay. Nonetheless, you worked</p> <p>9 as an advocate for women's health during</p> <p>10 those 24 years. True?</p> <p>11 A. Most of those years.</p> <p>12 Q. You published a number of</p> <p>13 papers in the area of women's health,</p> <p>14 correct?</p> <p>15 A. Yes.</p> <p>16 Q. You were invited to a number of</p> <p>17 conferences and seminars and symposia on</p> <p>18 issues regarding ovarian cancer and women's</p> <p>19 health. True?</p> <p>20 A. Yes.</p> <p>21 Q. You published chapters in</p> <p>22 textbooks regarding ovarian cancer. True?</p> <p>23 A. Yes.</p> <p>24 Q. You gave interviews to women's</p>	<p style="text-align: right;">Page 65</p> <p>1 MS. O'DELL: Object to the</p> <p>2 form.</p> <p>3 A. I don't remember the questions</p> <p>4 that I was asked about on Dr. Oz. I know</p> <p>5 that the purpose for me to go on that was to</p> <p>6 talk about the reduction in the risk of</p> <p>7 ovarian cancer by using birth control pills</p> <p>8 and I don't remember all of the questions.</p> <p>9 As far as I can recall, the other times I was</p> <p>10 on the news, that was not a question that was</p> <p>11 raised.</p> <p>12 BY MS. BROWN:</p> <p>13 Q. When is the first date you can</p> <p>14 recall forming the opinion that you've</p> <p>15 provided in your expert report in the MDL?</p> <p>16 MS. O'DELL: Object to the</p> <p>17 form. Are you moving off going</p> <p>18 through the -- sort of the notice and</p> <p>19 the documents requested? I'm not --</p> <p>20 MS. BROWN: Shortly. You</p> <p>21 almost ready for a break?</p> <p>22 MS. O'DELL: Well, probably in</p> <p>23 the next five minutes or so, but what</p> <p>24 I was going to say and I neglected to</p>

<p style="text-align: right;">Page 66</p> <p>1 say earlier is, there were certain 2 documents that were requested through 3 the notice. And just for the record, 4 I wanted to state that plaintiffs 5 served objections to certain of those 6 requests and we produced documents 7 here consistent with those objections. 8 MS. BROWN: Right. We're in 9 receipt of your objections. 10 BY MS. BROWN: 11 Q. So Doctor, what -- let's mark 12 your report as Exhibit 7. 13 (Deposition Exhibit 7 marked 14 for identification.) 15 BY MS. BROWN: 16 Q. And my question for you is 17 that -- when's the first date by which you 18 formed the opinions that are contained in 19 this report that we've marked as Exhibit 7? 20 MS. O'DELL: Object to the 21 form. 22 A. I cannot recall the first date. 23 BY MS. BROWN: 24 Q. Okay. At the time that you</p>	<p style="text-align: right;">Page 68</p> <p>1 Is there anything else that 2 you've brought with you today in response to 3 our requests contained in Exhibit 1? 4 MS. O'DELL: Other than the 5 notebooks she's brought for her 6 reference materials? 7 A. No, I haven't -- I brought 8 this -- it has my report and my reference 9 list and my CV. These are all my references 10 and all of that is contributing material. 11 BY MS. BROWN: 12 Q. Okay. So for the record, let's 13 identify what you've just pointed out to us. 14 You have a small binder in front of you -- 15 A. Yeah. 16 Q. -- which appears to be tabbed. 17 Did you do that tabbing? 18 A. I did. And it just sort of 19 says which section is which in my report. 20 Q. Do you have any notes in your 21 report, other than the tabs? 22 A. No. 23 Q. Okay. And what else is 24 contained in that binder?</p>
<p style="text-align: right;">Page 67</p> <p>1 were approached by Ms. Gallagher in 2005, you 2 did not hold the opinion that talcum powder 3 causes ovarian cancer, correct? 4 MS. O'DELL: Object to the 5 form. 6 A. I didn't meet Ms. Gallagher 7 till 2015. 8 BY MS. BROWN: 9 Q. Correct. I misspoke. I'm 10 sorry. 11 A. And the question was, I did not 12 hold the opinion that -- I had concerns about 13 talcum powder uses in ovarian cancer and I 14 had enough concerns that I was interested 15 enough to become involved in learning more 16 about it. 17 Q. To close the loop, then, 18 Doctor, on the requests we made in the 19 deposition notice that we've marked as 20 Exhibit 1, we've marked a number of documents 21 that lawyers for the plaintiffs produced 22 early this morning. We're aware of the 23 objections that lawyers for the plaintiffs 24 have made.</p>	<p style="text-align: right;">Page 69</p> <p>1 A. My CV and then this is a list 2 of all of the contributing material. 3 Q. And then you have next to you 4 three larger binders, which I think you said 5 contain the references in the report; is that 6 right? 7 A. The references and also the 8 other articles that you were provided, the 9 new are in these and then that's all the 10 contributing material. 11 Q. Okay. And so for the record, 12 behind you there's probably another ten or 12 13 binders that you're suggesting contain the 14 documents contained in -- listed in Exhibit B 15 to your report? 16 A. That's correct. 17 Q. Okay. You didn't type Exhibit 18 B to your report, did you, Doctor? 19 A. I did not type it. 20 Q. Do you know where Exhibit B to 21 your report came from? 22 A. The attorneys typed it up for 23 me from all of my reference -- contributing 24 material.</p>

<p style="text-align: right;">Page 70</p> <p>1 Q. Okay. Did the attorneys 2 provide you with all of the materials that 3 are listed on Exhibit B? 4 A. No. 5 Q. Which of the materials on 6 Exhibit B were provided by the attorneys? 7 A. I can't tell you. It's a mix 8 of what I provided them, what they provided 9 me, what I asked them to provide to me. 10 Q. Well, let's start by 11 understanding the difference between your 12 reference list on page 18 of your report and 13 then Exhibit B to your report. Can you 14 explain to me the difference there? 15 A. The reference lists are 16 articles that I actually reference in my 17 report. And this is all the articles that 18 I -- or pieces of information that I 19 considered when drafting my report. 20 Q. Did you consider every piece of 21 information that's listed on the 28-page 22 Exhibit B? 23 A. Yes. 24 Q. Did you read every entry on the</p>	<p style="text-align: right;">Page 72</p> <p>1 A. No. 2 Q. Did you take any notes when you 3 were reviewing any of the materials cited in 4 your report? 5 A. I didn't take separate notes. 6 What I did was, I started writing things down 7 and used that as the draft of my report and 8 then just updated it every time I read more, 9 changed more, added, subtracted to it. 10 Q. Take a look, if you would, at 11 page 13 of Exhibit B. There are a number of 12 entries that begin with the letters J&J. Do 13 you see that? 14 A. I do. 15 Q. What are those? 16 A. Those are internal documents 17 from J&J that were provided to me from the 18 plaintiffs' attorneys. 19 Q. And did you request internal 20 documents be provided to you from the 21 plaintiffs' lawyers? 22 A. Some of them I might have 23 requested and some of them were provided to 24 me. But I can't tell you which is which by</p>
<p style="text-align: right;">Page 71</p> <p>1 28-page Exhibit B? 2 A. I did not read every word of 3 every entry. Some of them I looked at a 4 piece of it, if it was a reference from 5 something else that I wanted to confirm. 6 Some of it I looked at and set aside, didn't 7 feel like it was added -- additive or 8 pertinent to what I was reviewing. And -- 9 but these are all of the things that I looked 10 at in some way. 11 Q. How did you maintain all of the 12 documents contained at Exhibit B? And by 13 that I mean, do you have all of these 14 documents electronically or do you have a 15 hard copy at your house or office? 16 A. Both. 17 Q. Okay. You have a -- hard 18 copies of every document contained on Exhibit 19 B? 20 A. Yes. 21 Q. Okay. So you have 12 binders 22 in hard copy? 23 A. Yes. 24 Q. Do they have notes on them?</p>	<p style="text-align: right;">Page 73</p> <p>1 looking at that list. 2 Q. In the normal course of your 3 practice as a gynecologic oncologist, do you 4 review internal company documents in making 5 medical decisions? 6 A. I don't have access to them. 7 MS. O'DELL: Object to the 8 form. 9 BY MS. BROWN: 10 Q. So as part of your work as a 11 treating physician, you don't rely on 12 internal company documents. Fair? 13 MS. O'DELL: Object to the 14 form. 15 A. I don't have access to internal 16 company documents. 17 BY MS. BROWN: 18 Q. So you don't rely on them, 19 right? 20 MS. O'DELL: Object to the 21 form. 22 A. Well, I don't have access to 23 them. 24</p>

<p style="text-align: right;">Page 74</p> <p>1 BY MS. BROWN: 2 Q. Do you have any -- so that 3 means you haven't used them in your practice 4 as a gynecologic oncologist, right? 5 MS. O'DELL: Object to the 6 form. 7 A. Not that I recall. 8 BY MS. BROWN: 9 Q. And the 20-some-odd J&J 10 documents you have listed here at Exhibit 13, 11 do you have any idea what percentage of the 12 entire document production from J&J these 20 13 documents comprise? 14 A. Of all of J&J's internal 15 documents? I don't. 16 Q. Was it important to you, to 17 consider the context of all of the internal 18 documents you have cited at Exhibit 13? 19 MS. O'DELL: Object to the 20 form. 21 A. Say that again. 22 BY MS. BROWN: 23 Q. Was it important to you -- 24 first of all, did you request that the</p>	<p style="text-align: right;">Page 76</p> <p>1 Q. I want to know -- sitting here 2 today, it's my opportunity to understand what 3 forms the basis of your opinions and I want 4 know if there's information in an internal 5 Johnson & Johnson document that forms the 6 basis of your opinion that talc causes 7 ovarian cancer. 8 MS. O'DELL: Objection, asked 9 and answered. 10 A. My opinion is not based on any 11 one single document or any one single source 12 of documents. It's the whole of the 13 documents that I reviewed. 14 BY MS. BROWN: 15 Q. So what information do you rely 16 on from the whole of the 20 J&J documents you 17 looked at? 18 MS. O'DELL: Objection, 19 mischaracterizes the witness's 20 testimony. 21 A. So I'm going to say that this 22 is my contributing materials list. It's not 23 even -- none of the -- those internal 24 documents are referenced in my -- in my</p>
<p style="text-align: right;">Page 75</p> <p>1 lawyers give you some of these internal 2 documents? 3 A. I don't recall specifically if 4 I requested these or they gave them to me. I 5 just don't recall. 6 Q. Do internal J&J documents form 7 the basis of your opinions in this 8 litigation? 9 MS. O'DELL: Object to the 10 form. 11 A. The basis of my opinion is the 12 review of everything that I looked at in 13 total, not -- there isn't any one thing that 14 forms the basis of my opinion. It's the 15 whole of the evidence. 16 BY MS. BROWN: 17 Q. Okay. So identify for me what 18 information in the internal Johnson & Johnson 19 documents you're relying on to form your 20 opinion. 21 A. Well, these are in my 22 contributing data lists, not in my reference 23 lists. So I'd have to look at all of them 24 to --</p>	<p style="text-align: right;">Page 77</p> <p>1 opinion. So I don't know how else to answer 2 to you, other than to say I looked at all of 3 the evidence. The things that I felt were 4 important, I referenced in my opinion. I 5 don't recall what's in all of those. 6 BY MS. BROWN: 7 Q. So there are internal company 8 documents listed on page 13 of Exhibit B, the 9 contents of which, sitting here today, you're 10 unaware of; is that fair? 11 MS. O'DELL: Object. That 12 misstates her testimony. 13 A. What I -- 14 MS. O'DELL: Excuse me. Object 15 to the form of the question. 16 You may answer. 17 A. What I said is, I can't recall 18 what those individually are, sitting here 19 today. I could look at them if you'd like me 20 to. 21 BY MS. BROWN: 22 Q. Well, I want you to do that if 23 it forms the basis of your opinion. If it 24 doesn't and it's just something that was</p>

<p style="text-align: right;">Page 78</p> <p>1 given to you by the plaintiffs' lawyers, we 2 can move on. But if there's something in the 3 20 documents that the plaintiffs' lawyers 4 have listed on page 13 of Exhibit B to your 5 report that forms the basis of your opinion, 6 I want to know what that is. 7 MS. O'DELL: Objection to the 8 form, asked and answered three times 9 now. 10 A. The basis of my opinion is not 11 formed by any one document. 12 BY MS. BROWN: 13 Q. Is the basis of your opinion 14 formed, in part, by internal Johnson 15 & Johnson documents? 16 MS. O'DELL: Object to the 17 form. 18 A. I would have to look at all of 19 those documents again to tell you if there 20 was something specifically in there and what 21 the -- I just -- they're numbers to me. 22 Looking at them here, I don't recall that -- 23 what's in each one of those to tell you if 24 there's something specifically that formed my</p>	<p style="text-align: right;">Page 80</p> <p>1 form. I think Dr. Wolf stated 2 previously they were provided to her 3 because they weren't available 4 elsewhere. 5 MS. BROWN: Well, I need her to 6 say that, though. I need that 7 testimony from her. 8 BY MS. BROWN: 9 Q. Dr. Wolf, did you -- were the 10 J&J documents on page 13 provided to you by 11 plaintiffs' lawyers? 12 MS. O'DELL: Object to the 13 form. 14 A. The documents were provided to 15 me by plaintiffs' lawyers. 16 BY MS. BROWN: 17 Q. And are you -- can you provide 18 us with an understanding of the methodology 19 the plaintiffs' lawyers employed in terms of 20 which documents to select for your review? 21 MS. O'DELL: Object to the 22 form, asked and answered. 23 A. I'm not sure what you're 24 asking.</p>
<p style="text-align: right;">Page 79</p> <p>1 opinion. 2 MS. O'DELL: And you're 3 referring to page 13. 4 THE WITNESS: Of Exhibit B. 5 MS. O'DELL: Of Exhibit B. 6 We've been going about an hour and ten 7 minutes. 8 BY MS. BROWN: 9 Q. Sure. I'll just finish real 10 quick on the company documents. If you just 11 look at page 12 of your report, you list a 12 number -- sorry, Exhibit B to your report, 13 you list a number of Imerys entries. Do you 14 see that there? 15 A. I do. 16 Q. Who is Imerys? 17 A. Imerys is a mining company. 18 Q. Did you select these internal 19 Imerys documents to review? 20 A. These were provided to me. 21 Q. And same with the J&J document, 22 did you select those to review or were they 23 provided to you? 24 MS. O'DELL: Objection to the</p>	<p style="text-align: right;">Page 81</p> <p>1 BY MS. BROWN: 2 Q. Do you have an understanding of 3 how the plaintiffs' lawyers went about 4 picking the 20 J&J documents and the 15 5 Imerys documents that appear on Exhibit B to 6 your report? 7 MS. O'DELL: Object to the 8 form. 9 A. I didn't specifically ask them 10 how they came about finding them, looking for 11 them, if that's what you're asking me. 12 BY MS. BROWN: 13 Q. Do you have any understanding, 14 sitting here today, of how the internal 15 documents listed on page B of your report, 16 were compiled for your review? 17 MS. O'DELL: Object to the 18 form, asked and answered. 19 A. I'm not aware of how the 20 plaintiffs' attorneys compiled the report. I 21 didn't ask them their methodology. 22 BY MS. BROWN: 23 Q. Having reviewed the internal 24 documents that the plaintiffs' lawyers gave</p>

<p style="text-align: right;">Page 82</p> <p>1 you, did you ask them for additional internal 2 documents? 3 A. I don't recall. 4 Q. Did you ask the plaintiffs' 5 lawyers any questions about any of the 6 internal documents they provided you? 7 MS. O'DELL: Excuse me, I'm 8 going to object to that question. 9 MS. BROWN: I'll rephrase. 10 MS. O'DELL: You're not 11 entitled to understand -- 12 MS. BROWN: I'll rephrase -- 13 (Simultaneous discussion 14 interrupted by reporter.) 15 MS. O'DELL: Let me finish my 16 objection before you interrupt me. 17 MS. BROWN: Sure. 18 MS. O'DELL: So she's not 19 entitled to ask you questions about 20 your conversations with counsel. 21 MS. BROWN: That's not entirely 22 true. 23 BY MS. BROWN: 24 Q. I'm certainly entitled to know</p>	<p style="text-align: right;">Page 84</p> <p>1 MS. O'DELL: Fair enough. 2 MS. BROWN: If she asked you, 3 as lawyers for the plaintiffs, for any 4 information on which she is relying 5 for her opinion, then that's 6 discoverable. And so my question -- I 7 appreciate your work-product concern. 8 My question is meant to stay within 9 the bounds of the Federal Rules, which 10 is that -- was there any information 11 that you provided her about these 12 documents on which she is relying to 13 form her opinion. That's 14 discoverable. 15 MS. O'DELL: That's not the 16 question you asked her. 17 MS. BROWN: Yes, absolutely. 18 MS. O'DELL: You asked if she 19 asked any questions, which goes to 20 communication. And what the rule 21 allows discovery on are the materials 22 provided to Dr. Wolf, which are 23 available here for your review. 24 They're available from the list that</p>
<p style="text-align: right;">Page 83</p> <p>1 about information that counsel provided to 2 you that you're relying on to form your 3 opinions. So I will rephrase the question to 4 ask just for whether you asked for any -- you 5 have any questions about these internal 6 documents that you asked of plaintiffs that 7 you are relying on for your opinions here? 8 MS. O'DELL: Dr. Wolf, I'm 9 going to instruct you not to discuss 10 conversations you had with counsel. 11 You're certainly entitled, 12 under the rules, to know what 13 materials were provided for Dr. Wolf, 14 which we are doing that, but you're 15 not entitled to understand any 16 conversations that occurred between 17 Dr. Wolf and counsel. I'm going to 18 instruct the witness not to answer. 19 MS. BROWN: But that's not the 20 law. So the law is -- 21 MS. O'DELL: The law is -- 22 MS. BROWN: Let me finish. I 23 let you put your statement on the 24 record. Let me just finish.</p>	<p style="text-align: right;">Page 85</p> <p>1 you've been provided. You're not 2 entitled to any discussions, and that 3 was what the question focused on. So 4 why don't we -- 5 MS. BROWN: We are entitled -- 6 I just want to finish this question 7 and we'll absolutely take a break. We 8 are entitled to any information, 9 verbal or otherwise that you may have 10 given her, if she's relying on it. 11 And so I will rephrase the question to 12 make clear, that all I want to know is 13 if she asked the lawyers a question 14 about the documents, the answer to 15 which she relies on for her opinion. 16 That is 100 percent discoverable. 17 MS. O'DELL: It is not. That's 18 a communication between counsel and 19 she's not going to testify. Now, all 20 the materials that she's relying on 21 are present in the -- excuse me. 22 They're present before Dr. Wolf and on 23 the table beside Dr. Wolf. Those are 24 the materials she's relying on and</p>

<p style="text-align: right;">Page 86</p> <p>1 you're welcome to ask all of the 2 questions you'd like. But in terms of 3 communications between counsel and 4 Dr. Wolf, you're not entitled to 5 discover that and I'm going to 6 instruct the witness not to answer. 7 MS. BROWN: Here's what we need 8 to do so we can take it to the judge. 9 I need an answer to the question, is 10 she relying on information from the 11 lawyers regarding the documents. I 12 need -- that's a yes or no. That's 13 not even questionable. If she says 14 yes and you instruct her not to 15 answer, we'll take it to the judge. 16 We need an answer to that straight up. 17 MS. O'DELL: So I want to make 18 sure I understand. Are you asking her 19 if she relies on these materials? 20 MS. BROWN: No. Here's where 21 we are. I want to know if she asked 22 the lawyers a question about the 23 documents, she got an answer and she's 24 relying on that answer to form the</p>	<p style="text-align: right;">Page 88</p> <p>1 missing each other, so let me ask my 2 question and you instruct. 3 MS. O'DELL: I don't think we 4 are. 5 MS. BROWN: We'll have it on 6 the record and be able to take it up. 7 For the record, my position is, any 8 information from counsel or otherwise, 9 on which the witness relies for her 10 opinion is plainly discoverable under 11 the Federal Rules. 12 MS. O'DELL: Disagree with that 13 position. 14 BY MS. BROWN: 15 Q. Dr. Wolf, one quick question 16 here, and then we'll certainly take a break. 17 I know we've been going a while. 18 Did counsel for the plaintiffs 19 provide you with any information regarding 20 internal company documents on which you are 21 relying to form the basis of your opinions in 22 this lawsuit? 23 MS. O'DELL: Object to the 24 question. And answer the question to</p>
<p style="text-align: right;">Page 87</p> <p>1 basis of her opinion, and that is 2 discoverable under the Federal Rules. 3 So we're going to start with that 4 question, did you rely on something 5 the lawyers told you about the 6 documents, and then if you want to 7 instruct from there, we'll tee it up 8 and talk to the judge about it because 9 that's discoverable. 10 MS. O'DELL: I think the issue 11 is the discussion about "rely." And 12 what -- but you're asking her about 13 discussions with counsel. And that's 14 different. And so she's not going to 15 testify about discussions with 16 counsel. The materials that she 17 considered and she relied on are 18 present in front of her and to her 19 side. 20 MS. BROWN: Let me -- 21 MS. O'DELL: That's what's 22 discoverable and that's where we're 23 going to stay. 24 MS. BROWN: Okay. We're</p>	<p style="text-align: right;">Page 89</p> <p>1 the degree you understand it. If you 2 don't understand the question, you 3 don't have to answer it, Dr. Wolf. 4 A. My understanding of the 5 question, what I hear you asking me, is did I 6 ask counsel questions about this, information 7 I got from them, not from the documents but 8 from the answer to my question, did I use 9 that information to form my opinion? The 10 answer to that is no. 11 BY MS. BROWN: 12 Q. Thank you, Dr. Wolf. 13 MS. BROWN: Why don't we go 14 ahead and take a break. 15 MS. O'DELL: Okay. 16 MS. BROWN: Thank you. 17 THE VIDEOGRAPHER: Going off 18 the record. The time is 10:21 a.m. 19 (Recess taken from 10:21 a.m. 20 to 10:33 a.m.) 21 THE VIDEOGRAPHER: Back on the 22 record. The time is 10:33 a.m. 23 BY MS. BROWN: 24 Q. Welcome back, Dr. Wolf.</p>

<p style="text-align: right;">Page 90</p> <p>1 A. Thank you.</p> <p>2 Q. Dr. Wolf, counsel for the</p> <p>3 plaintiffs indicated to me earlier this</p> <p>4 morning, that there are some additional</p> <p>5 documents that you have reviewed since the</p> <p>6 time of your report. That would include the</p> <p>7 pending health Canada risk assessment; is</p> <p>8 that correct?</p> <p>9 A. Yes.</p> <p>10 Q. Okay. When did you review</p> <p>11 that?</p> <p>12 A. Sometime within the last few</p> <p>13 weeks. I don't remember the exact date.</p> <p>14 Q. Counsel indicated that you've</p> <p>15 reviewed an article with the lead author</p> <p>16 Taher, T-a-h-e-r; is that correct?</p> <p>17 A. That's correct.</p> <p>18 Q. When did you review that?</p> <p>19 A. Around the same time as the</p> <p>20 Canadian health assessment.</p> <p>21 Q. Were both the health Canada</p> <p>22 proposed report and the Taher article</p> <p>23 provided to you by counsel for the</p> <p>24 plaintiffs?</p>	<p style="text-align: right;">Page 92</p> <p>1 A. I don't have the supplemental</p> <p>2 materials. I just have the Taher somewhere.</p> <p>3 MS. BROWN: Counsel, has that</p> <p>4 material been provided to the doctor?</p> <p>5 MS. O'DELL: Yes.</p> <p>6 MS. BROWN: Okay. We'll</p> <p>7 request production of the supplemental</p> <p>8 materials as referenced in the Taher</p> <p>9 report.</p> <p>10 MS. O'DELL: Let me make sure.</p> <p>11 What do you mean "supplemental"? Let</p> <p>12 me make sure I understand what you're</p> <p>13 saying. She's provided the Taher and</p> <p>14 the -- she's provided the Taher paper</p> <p>15 and the causal assessment.</p> <p>16 MS. BROWN: Okay. The Taher</p> <p>17 paper makes references in numerous</p> <p>18 places to supplemental materials, and</p> <p>19 my question was whether you've</p> <p>20 provided those supplemental materials</p> <p>21 to the witness and if so, I'll request</p> <p>22 production of it.</p> <p>23 MS. O'DELL: Okay. Let me</p> <p>24 check that.</p>
<p style="text-align: right;">Page 91</p> <p>1 A. Yes.</p> <p>2 Q. Do you know if the Taher</p> <p>3 article is publicly available yet?</p> <p>4 A. I don't know. The copy that I</p> <p>5 have says that it's submitted for publication</p> <p>6 or is going to be submitted for publication.</p> <p>7 I haven't done a search to see if it's</p> <p>8 publicly available yet.</p> <p>9 Q. Have -- did you note in your</p> <p>10 review of the Taher article, that it</p> <p>11 references, in numerous places, supplemental</p> <p>12 materials?</p> <p>13 A. Yes.</p> <p>14 Q. Have you reviewed the</p> <p>15 supplemental materials on which Taher relies?</p> <p>16 A. I haven't reviewed them all.</p> <p>17 Some of them I had reviewed otherwise, but</p> <p>18 I -- I haven't reviewed them all, no.</p> <p>19 Q. Did plaintiffs' lawyers give</p> <p>20 you access to the supplemental materials</p> <p>21 relied on in Taher?</p> <p>22 A. I don't know.</p> <p>23 Q. Do you have those materials</p> <p>24 with you here today?</p>	<p style="text-align: right;">Page 93</p> <p>1 MS. BROWN: Okay. Thank you.</p> <p>2 BY MS. BROWN:</p> <p>3 Q. For your purposes, though,</p> <p>4 Dr. Wolf, it's not something you have on hand</p> <p>5 sitting here today?</p> <p>6 A. It's not.</p> <p>7 Q. And because these materials</p> <p>8 were recently provided to you by counsel for</p> <p>9 the plaintiffs, they did not form the basis</p> <p>10 of the report that you authored, dated</p> <p>11 November 16th, 2018; is that fair?</p> <p>12 A. That's fair.</p> <p>13 Q. Okay. Counsel indicated you</p> <p>14 have seen some of the other expert reports</p> <p>15 from witnesses for plaintiffs' lawyers in</p> <p>16 this litigation; is that right?</p> <p>17 A. That's correct.</p> <p>18 Q. Okay. Can you tell me which</p> <p>19 ones you've reviewed?</p> <p>20 A. Can I see the list of all of</p> <p>21 them? I don't --</p> <p>22 MS. O'DELL: I don't have a</p> <p>23 list.</p> <p>24 A. I reviewed some of the</p>

<p style="text-align: right;">Page 94</p> <p>1 epidemiology ones, but I don't remember the 2 names. I reviewed part of one of the other 3 GYN oncology ones. It seemed to be similar 4 to mine. I don't read it all. I didn't read 5 the third. I can't remember. 6 BY MS. BROWN: 7 Q. Okay. So let's back up. How 8 many -- I assume the reports of these other 9 experts were provided to you from the 10 plaintiffs' lawyers; is that right? 11 A. That's correct. 12 Q. Okay. When did you -- did you 13 receive them all at once? 14 A. I did. 15 Q. And do you recall approximately 16 when you received them? 17 A. I don't know. Sometime after 18 the reports were all submitted. I don't 19 remember the date. 20 Q. Okay. Prior to issuing your 21 report, dated November 16th, 2018, did you 22 see any other expert reports? 23 MS. O'DELL: Object to the 24 form.</p>	<p style="text-align: right;">Page 96</p> <p>1 for the plaintiffs submitted reports like 2 yours from a number of different people, 3 right? 4 A. Yes. 5 Q. And there came a point in time 6 when the plaintiffs' lawyers sent you some of 7 those reports, correct? 8 A. Yes. 9 Q. Did they send you completed 10 reports or did they sent you draft reports? 11 A. They sent me the completed 12 reports that had already been submitted and 13 turned in. I didn't see any drafts of 14 anybody else's reports. 15 Q. Got it. So in writing your 16 report in this case, which we have marked as 17 Exhibit 7 and which is dated November 16th, 18 2018, you did not rely on the opinions of 19 another expert. Fair? 20 MS. O'DELL: Object to the 21 form. 22 A. My understanding what you're 23 asking me is, did I rely on the opinions of 24 the expert reports in this case? No, I had</p>
<p style="text-align: right;">Page 95</p> <p>1 A. I didn't see any of the expert 2 reports for this case. 3 BY MS. BROWN: 4 Q. Okay. In -- fair to say, then, 5 the opinions that you have contained in your 6 report, dated November 16, 2018, you're not 7 relying on any other plaintiff expert in 8 forming these opinions; is that right? 9 MS. O'DELL: Object to the 10 form. Other than cited in her actual 11 report. 12 MS. BROWN: Counsel, it's 13 objection to form. Don't testify for 14 her. 15 A. Well, the Plunkett deposition, 16 I believe, is a reference in my report. 17 BY MS. BROWN: 18 Q. Well, it couldn't be a 19 reference in your report because it didn't 20 happen till after your report, right? 21 A. Sorry. Yes. 22 Q. Okay. So we're going to get to 23 Plunkett. Let's keep that to the side. What 24 I'm interested -- you understand that lawyers</p>	<p style="text-align: right;">Page 97</p> <p>1 not seen them. 2 BY MS. BROWN: 3 Q. That was exactly what I was 4 asking. Did you type the report that we've 5 marked as Exhibit 7 yourself, Doctor? 6 A. You mean my fingers on? 7 Q. Correct. 8 A. I typed some of the drafts. 9 The final report, I dictated most of it. 10 Q. So to whom did you dictate the 11 report? 12 A. I don't remember her name. 13 Someone who works with the plaintiffs' 14 attorneys. I'm not a typist. 15 Q. Fair enough. How many hours 16 did you spend preparing the report that we've 17 marked as Exhibit 7? 18 MS. O'DELL: Object to the 19 form. 20 A. An estimate of how much time, I 21 would say 20 to 30 hours, total. I mean, 22 there were several drafts and then even when 23 I thought it was a final draft, a few tweaks 24 and revisions here and there. And I still</p>

<p style="text-align: right;">Page 98</p> <p>1 see some typos and errors that if I had it 2 back, I would fix and change. 3 BY MS. BROWN: 4 Q. Did someone other than you 5 write some of the information contained in 6 Exhibit 7? 7 A. Exhibit 7 is my report? 8 Q. Correct. 9 A. Other than things that I have 10 in quotes that I've pulled from articles, no 11 one else wrote it. 12 Q. Other than information that you 13 have in quotes, it's your testimony that all 14 of the language that we see in Exhibit 7 is 15 your own; is that right? 16 MS. O'DELL: Object to the 17 form. 18 A. I wrote the report, the entire 19 report. 20 BY MS. BROWN: 21 Q. Do you know who Dr. Blair Smith 22 is? 23 A. Dr. Blair Smith? 24 Q. Correct.</p>	<p style="text-align: right;">Page 100</p> <p>1 A. Yes. 2 Q. You wrote that sentence? 3 A. Yes. 4 Q. Okay. Skipping down to the 5 paragraph below "Summary of Epidemiological 6 Evidence," the paragraph that begins, "When 7 looking at epidemiological studies in their 8 totality" -- are you with me? 9 A. Yes. 10 Q. Did you write this entire 11 paragraph here? 12 A. Yes. 13 Q. Did you give Dr. Ellen Blair 14 Smith the authority to copy that into her 15 report? 16 A. I didn't speak with Dr. Ellen 17 Blair Smith. 18 Q. Are you surprised to learn that 19 the information that you wrote on page 8 also 20 appears in Dr. Blair Smith's report, which 21 I'm handing you as Exhibit 8. 22 (Deposition Exhibit 8 marked 23 for identification.) 24 MS. O'DELL: Object to the</p>
<p style="text-align: right;">Page 99</p> <p>1 A. Is that -- is that Ellen Blair 2 Smith? 3 Q. Correct. 4 A. I do know her, yes. 5 Q. Okay. Did you work with 6 Dr. Blair Smith on your report? 7 A. I did not. 8 Q. Okay. Do you know why a 9 paragraph in your report would be exactly the 10 same as that contained in Dr. Smith -- Blair 11 Smith's report? 12 A. I don't. 13 Q. Okay. Let's take a look at 14 that. If you look at page 8 of your report, 15 Doctor. Right above the bold text that says 16 "Meta-Analysis," do you see that sentence? 17 A. Uh-huh. 18 Q. It says, "All of the cohort 19 studies are limited by lack of power, failure 20 to make the appropriate queries, selection 21 bias and short follow-up." 22 Do you see that? 23 A. I do. 24 Q. Are those your words?</p>	<p style="text-align: right;">Page 101</p> <p>1 form. 2 A. Is it marked somewhere here 3 what it is? 4 BY MS. BROWN: 5 Q. It is. If you look at page 16, 6 Doctor. And I'll direct you to the -- one, 7 two, three -- the end of the first -- go to 8 the third complete paragraph that begins "In 9 my opinion." You with me? 10 A. Uh-huh. 11 Q. Okay. And the end of that 12 paragraph contains the very first sentence I 13 asked you to read, right? "All of the cohort 14 studies are limited by lack of power." 15 Correct? 16 MS. O'DELL: Object to the 17 form. 18 A. What I can say when I look at 19 these, she cited the same limitations as I 20 did, and that's not that surprising to me. 21 BY MS. BROWN: 22 Q. Okay. And if you look at -- 23 when looking at the epidemiology studies, do 24 you see that that paragraph is the same,</p>

<p style="text-align: right;">Page 102</p> <p>1 Doctor?</p> <p>2 MS. O'DELL: Object to the</p> <p>3 form. Are you referring to when --</p> <p>4 the fourth -- the last paragraph above</p> <p>5 "Mechanism"?</p> <p>6 MS. BROWN: "When looking at</p> <p>7 epidemiological studies."</p> <p>8 BY MS. BROWN:</p> <p>9 Q. Do you see that, Doctor?</p> <p>10 A. Is that the last -- you're</p> <p>11 talking about the last paragraph?</p> <p>12 Q. Sorry, of your report. Page 8.</p> <p>13 Is that your language, Doctor?</p> <p>14 A. This is my language; this is</p> <p>15 her language. I see some words that are the</p> <p>16 same. The conclusions are similar, but --</p> <p>17 BY MS. BROWN:</p> <p>18 Q. And you see some sentences --</p> <p>19 MS. O'DELL: Excuse me. She's</p> <p>20 not finished.</p> <p>21 Would you like to finish,</p> <p>22 Dr. Wolf?</p> <p>23 A. But I mean, I'm just mostly</p> <p>24 looking at the length of it and it's not even</p>	<p style="text-align: right;">Page 104</p> <p>1 BY MS. BROWN:</p> <p>2 Q. In writing your report, Doctor,</p> <p>3 did you take any language from other</p> <p>4 articles?</p> <p>5 MS. O'DELL: Sorry, do you mean</p> <p>6 quote language?</p> <p>7 BY MS. BROWN:</p> <p>8 Q. Did you -- is any of the</p> <p>9 language contained in your report not your</p> <p>10 own; meaning did it come from publicly</p> <p>11 available sources or articles?</p> <p>12 MS. O'DELL: Object to the</p> <p>13 form.</p> <p>14 A. Quotes in my report came from</p> <p>15 articles.</p> <p>16 BY MS. BROWN:</p> <p>17 Q. In writing your report, did you</p> <p>18 consult Wikipedia?</p> <p>19 A. Did I do what?</p> <p>20 Q. Did you consult Wikipedia?</p> <p>21 A. No.</p> <p>22 Q. Do you know what that is?</p> <p>23 A. I do, but I don't consult for</p> <p>24 any medical literature or scientific</p>
<p style="text-align: right;">Page 103</p> <p>1 the same length, so I don't see how it's the</p> <p>2 exact same thing.</p> <p>3 BY MS. BROWN:</p> <p>4 Q. You see some sentences that are</p> <p>5 identical, right, Doctor?</p> <p>6 MS. O'DELL: Object to the</p> <p>7 form.</p> <p>8 A. I don't see -- give me a chance</p> <p>9 to look at the entire thing.</p> <p>10 BY MS. BROWN:</p> <p>11 Q. Sure.</p> <p>12 A. Because I don't see -- I see</p> <p>13 one sentence is the same. "There appears to</p> <p>14 be no significant publication bias."</p> <p>15 Q. And also, Doctor, the sentence</p> <p>16 that we just talked about, "All of the cohort</p> <p>17 studies are limited by failure," that's the</p> <p>18 same, right?</p> <p>19 MS. O'DELL: Object to the</p> <p>20 form.</p> <p>21 A. No, it's not the same. It</p> <p>22 raises the same points, but it's not the</p> <p>23 same.</p> <p>24</p>	<p style="text-align: right;">Page 105</p> <p>1 literature.</p> <p>2 Q. You don't consider Wikipedia to</p> <p>3 be a scientifically reliable source; is that</p> <p>4 right?</p> <p>5 A. I don't.</p> <p>6 Q. Okay. And in coming up with</p> <p>7 your report, that's not something that you</p> <p>8 cut and pasted from; is that right?</p> <p>9 A. I didn't look at Wikipedia to</p> <p>10 prepare my report.</p> <p>11 Q. And there aren't parts of your</p> <p>12 report that someone else did for you; is that</p> <p>13 right?</p> <p>14 MS. O'DELL: Object to form.</p> <p>15 A. That's right.</p> <p>16 BY MS. BROWN:</p> <p>17 Q. On page 2 of your report,</p> <p>18 Doctor, you indicate the method -- you talk</p> <p>19 about the methodology you employed here. Do</p> <p>20 you see that?</p> <p>21 A. Yes.</p> <p>22 Q. Describe for us -- I understand</p> <p>23 you have it discussed in your report, but</p> <p>24 describe for us what methodology you employed</p>

<p style="text-align: right;">Page 106</p> <p>1 to answer the question in this case. 2 A. So that's -- this is why I 3 provided the UpToDate evidence-based 4 medicine. So I started with the question. 5 The question is, does general use of talcum 6 powder cause ovarian cancer. And then 7 researched the literature, looking for human 8 studies, animal studies, in vitro studies. 9 And then evaluated the validity of the 10 studies as a whole, by looking at their 11 materials and methods, the results and 12 conclusions that they drew, what journal 13 the -- if it was published in a peer-reviewed 14 journal, what journal it was in, what year it 15 was published, were there multiple studies 16 showing similar findings, were there 17 outliers, and then from that formed my 18 opinion. 19 Q. And your conclusion is that 20 genital talc use causes ovarian cancer, 21 correct? 22 A. That is -- genital talcum 23 powder use, yes. 24 Q. And is your opinion limited to</p>	<p style="text-align: right;">Page 108</p> <p>1 a woman is exposed to when she uses it 2 perineally? 3 MS. O'DELL: Object to the 4 form. 5 A. Are you asking me if I've done 6 a study? I'm not sure what you're asking. 7 BY MS. BROWN: 8 Q. In forming your opinion in this 9 case, that talcum powder causes ovarian 10 cancer, have you attempted to quantify how 11 much talcum powder causes ovarian cancer? 12 MS. O'DELL: Object to the 13 form. 14 A. In reviewing the articles, some 15 of the studies have tried to look at length 16 of time, frequency of use, years of use, 17 total applications. It's hard for me to know 18 what that amount is, because I don't know in 19 each individual woman, like, how much she put 20 in. And I also don't know in each individual 21 woman, what her risk might be from the talc, 22 based on her own genetic makeup and other 23 things in her immune system and how she 24 responds to it.</p>
<p style="text-align: right;">Page 107</p> <p>1 a certain quantity of genital powder use? 2 MS. O'DELL: Object to the 3 form. 4 A. It's not. And I had a hard 5 time with that issue just because I don't 6 know what a dose is, because how much do you 7 shake, how much do you apply, it's hard to 8 know a certain amount. 9 BY MS. BROWN: 10 Q. In forming your opinions in 11 this case, have you attempted to quantify how 12 much talcum powder an individual woman would 13 be exposed to when using it in the genital 14 area? 15 MS. O'DELL: Objection to the 16 form. Dr. Wolf's being offered for 17 general causation, not for a specific 18 plaintiff. 19 A. Repeat the question again. 20 BY MS. BROWN: 21 Q. Sure. We were talking about 22 how much powder use, in your opinion, causes 23 ovarian cancer. And my question is, have you 24 attempted to quantify how much talcum powder</p>	<p style="text-align: right;">Page 109</p> <p>1 BY MS. BROWN: 2 Q. Have you calculated how much 3 genital talc powder is needed to cause 4 ovarian cancer? 5 MS. O'DELL: Object to the 6 form. 7 A. Again, I think that my -- it's 8 difficult, even from reviewing the literature 9 and from all the questions that were asked, 10 queried, to know how much any woman is 11 exposed to when she uses it. 12 BY MS. BROWN: 13 Q. So what you're identifying is 14 one of the limitations of the talc 15 epidemiology, correct? 16 MS. O'DELL: Object to the 17 form. 18 A. What I'm identifying is one of 19 the limitations of knowing what dose is safe. 20 BY MS. BROWN: 21 Q. In your mind, is there a dose 22 of genital talcum powder that does not cause 23 ovarian cancer? 24 A. I don't know.</p>

<p style="text-align: right;">Page 110</p> <p>1 Q. Have you investigated whether 2 or not there is an amount of talcum powder 3 that can be used perineally without 4 increasing the risk for ovarian cancer? 5 MS. O'DELL: Objection, asked 6 and answered. 7 A. I don't know if there is an 8 amount that's safe. I don't know how I could 9 ethically test that. I'm not aware of 10 anything in the literature that says, "This 11 dose is safe, this dose is not." Because 12 even in all of the studies, what is a dose? 13 One shake? Two shakes? A hard shake? A 14 light shake? 15 BY MS. BROWN: 16 Q. Is your opinion, Dr. Wolf, that 17 some amount of perineal talcum powder use 18 causes ovarian cancer, is that opinion 19 dependent on an assumption that talcum powder 20 is contaminated with asbestos? 21 A. No, because -- 22 MS. O'DELL: Object to the 23 form. 24 A. -- talcum powder is a mix of</p>	<p style="text-align: right;">Page 112</p> <p>1 BY MS. BROWN: 2 Q. Are you referring to 3 plaintiffs' expert witness reports? 4 A. Let me look in my report here 5 for just one second. I'm sorry, I just need 6 to look in here to find it. Because there is 7 plaintiffs' expert witness, but -- 8 MS. O'DELL: Take your time, 9 Doctor. 10 THE WITNESS: All right. 11 BY MS. BROWN: 12 Q. And, Doctor, maybe I can help. 13 On page 9 of your report, you reference in 14 the third paragraph -- 15 A. Yes. 16 Q. -- that you believe Dr. Longo 17 and Rigler have demonstrated talc to be -- 18 may be contaminated with asbestos. Do you 19 see that? 20 A. That's correct. And then also 21 there's the deposition of John Hopkins. 22 Q. What information are you 23 relying on from the deposition of John 24 Hopkins?</p>
<p style="text-align: right;">Page 111</p> <p>1 things, right? It's a mix of platy talc, 2 fibrous talc, asbestos, heavy metals have 3 been found in it, nickel and chromium and 4 cobalt, and then all of the fragrances. And 5 I have seen the expert report of Michael 6 Crowley, where he assessed the irritant 7 quality of some of the fragrances. And so 8 when I look at the talcum powder product, I 9 look at it as a whole. 10 BY MS. BROWN: 11 Q. Do you believe there is 12 asbestos in talcum powder? 13 A. I've seen evidence that there 14 is asbestos found in at least 60 percent of 15 talcum powder that's been evaluated that I've 16 seen. 17 Q. Is it your opinion in this 18 case, that 60 percent of talcum powder is 19 contaminated with asbestos? 20 MS. O'DELL: Object to the 21 form, asked and answered. 22 A. In the reports that I've seen, 23 60 percent of the time there was evidence of 24 asbestos.</p>	<p style="text-align: right;">Page 113</p> <p>1 A. A report that I saw. 2 Q. Okay. What -- you just pulled 3 out a document from your binder. What is 4 that, Doctor? 5 A. That is the -- this is part of 6 the deposition, right? Yeah. It's in my 7 references. 8 BY MS. BROWN: 9 Q. Okay. Can I see it? 10 A. Yeah. It was just printed 11 separately so it can be bigger. 12 Q. And what you have just handed 13 me, Dr. Wolf, is -- it bears an exhibit 14 sticker Hopkins 28, and do you know -- it 15 appears to be a large printout of some kind 16 of Excel chart. Do you know what this is? 17 A. This was from his deposition of 18 testing of talcum powder products. 19 Q. Did you read the deposition of 20 Dr. John Hopkins? 21 A. I did not see the entire 22 deposition. 23 Q. Were you provided with the 24 deposition?</p>

<p style="text-align: right;">Page 114</p> <p>1 A. If I was, I don't recall. 2 Q. Did you ask to see Exhibit 28 3 to John Hopkins' deposition? 4 A. Specifically ask for that? I 5 did not. I was provided it. 6 Q. So the lawyers decided to give 7 you John Hopkins' Exhibit 28; is that right? 8 A. I received it from the lawyers. 9 Q. Okay. And do you know what's 10 contained within Exhibit 28? 11 A. Do I know what's contained 12 within it? It's a chart of testing of talcum 13 powder from various sources and various time 14 periods, how the test was done and what the 15 results showed, as well as a few other things 16 on there. 17 Q. Did you -- do you know who 18 created this chart, Dr. Wolf? 19 A. I don't. 20 Q. Do you have any idea if the 21 four pages of testing contained in Exhibit 28 22 to John Hopkins' deposition is representative 23 of all the testing that was done on Johnson 24 & Johnson's product?</p>	<p style="text-align: right;">Page 116</p> <p>1 BY MS. BROWN: 2 Q. So in terms of interpreting the 3 findings of the chart, which list a number of 4 different test methods, you'd agree you're 5 not a microscopist. True? 6 MS. O'DELL: Object to the 7 form. 8 A. Can you define what a 9 "microscopist" is in your -- from what you're 10 asking me? 11 BY MS. BROWN: 12 Q. Sure. Are you -- do you hold 13 yourself out to the medical community as an 14 expert in light microscopy in looking -- 15 using various different types of microscopy 16 to study minerals? 17 A. No, I'm not. 18 Q. And you understand that the 19 chart you just handed me includes a number of 20 different test methods, correct? 21 A. Yes. 22 Q. And you're not aware whether 23 those test methods are even capable of 24 distinguishing or finding asbestos, correct?</p>
<p style="text-align: right;">Page 115</p> <p>1 MS. O'DELL: Object to the 2 form. 3 A. I don't know if it is or it 4 isn't, but what I know is what I see there, 5 is that the results show evidence of asbestos 6 contamination over a period of time. 7 BY MS. BROWN: 8 Q. Do you know -- are you familiar 9 with the test method "XRD"? 10 A. I'm not a geologist and I don't 11 understand the test methods. So I'm going to 12 have to say I would defer to the geologist to 13 answer a question about that. 14 Q. So in terms of whether or not a 15 test method known as "XRD" is even capable of 16 distinguishing between asbestiform and 17 nonasbestiform minerals, you would defer to 18 somebody else on that question; is that 19 right? 20 MS. O'DELL: Object to the 21 form. 22 A. What I'm going to say is that 23 the details of how that's performed, I am not 24 aware of.</p>	<p style="text-align: right;">Page 117</p> <p>1 MS. O'DELL: Object to the 2 form. 3 A. I'm assuming since they found 4 asbestos, that they are. I'm assuming that 5 since they were used to try to identify 6 asbestos, that they are. 7 BY MS. BROWN: 8 Q. Show me on this chart what 9 asbestos finding you're referring to, Doctor. 10 A. The second page, tremolite -- 11 here, tremolite, tremolite, actinolite 12 fibrous talc, tremolite, tremolite, 13 actinolite, tremolite, actinolite -- sorry. 14 I'm sorry. I didn't mean to go so fast. I'm 15 looking at what tests revealed. 16 Q. And are you familiar, Doctor, 17 with the fact that tremolite exists both as 18 tremolite asbestos and as the nonasbestiform 19 version of that mineral? Are you aware of 20 that? 21 A. Yes. 22 Q. Okay. And do you -- what 23 information are you relying on that the 24 tremolite that's indicated in that chart is</p>

<p style="text-align: right;">Page 118</p> <p>1 tremolite asbestos and not the nonasbestiform 2 version? 3 MS. O'DELL: Object to the 4 form. 5 A. I wasn't given that 6 information. All I can say is that there 7 is -- some of them say "tremolite," others 8 say "fibrous crocidolite, fibrous tremolite, 9 actinolite." 10 BY MS. BROWN: 11 Q. And whether the information 12 that's contained on the exhibit from 13 Dr. Hopkins' deposition that was given to you 14 by the plaintiffs' lawyers, whether that, in 15 fact, indicates a finding of asbestos, you're 16 not the expert in that. Fair? 17 MS. O'DELL: Object to the 18 form. 19 A. I'm looking at the results, and 20 even if I take out ones that just say 21 "tremolite," and don't tell me if it's the 22 asbestos form or not, I see -- I see others 23 that do say "asbestos, asbestos fibers, 24 fibrous talc" --</p>	<p style="text-align: right;">Page 120</p> <p>1 BY MS. BROWN: 2 Q. And have you reviewed -- what 3 you just pointed me to, Dr. Wolf, is a 4 testing from the 1970s by Dr. Langer, 5 correct? 6 A. Can I see the whole thing? 7 Q. Sure. You pointed me to 8 Dr. Langer, Mount Sinai, 1975, right? 9 A. Yes. 10 Q. Okay. Are you familiar with 11 Dr. Langer's testing of talcum powder 12 products in the 1970s? 13 MS. O'DELL: Object to the 14 form. And if you're going to ask 15 questions about the exhibit, if you'll 16 put it back in front of the witness. 17 MS. BROWN: Absolutely. 18 MS. O'DELL: You've asked a 19 question, she's going to respond, so 20 hand her back Exhibit 28. 21 MS. BROWN: I'm not sure she 22 needs it to answer it. 23 MS. O'DELL: I'm sure counsel 24 has a copy of Exhibit 28 if you -- if</p>
<p style="text-align: right;">Page 119</p> <p>1 BY MS. BROWN: 2 Q. Show me where it says 3 "asbestos." 4 A. This one says "confirmed 5 asbestos." 6 Q. And did you ask -- did you look 7 at the product that was being tested here, 8 Doctor? Meaning, do you even know if this 9 was cosmetic talcum powder? 10 MS. O'DELL: Object to the 11 form. If you want her to look at the 12 exhibit in full, you can ask a 13 question. 14 BY MS. BROWN: 15 Q. Sure. You just pointed me to a 16 line on the chart that says they're testing 17 ore mud. Do you have any source of 18 information that would lead you to believe 19 that that was ore that was used to make 20 cosmetic talc? 21 MS. O'DELL: Object to the 22 form. 23 A. Are you talking about the one 24 below it that says --</p>	<p style="text-align: right;">Page 121</p> <p>1 you need it. I'm sure you have it 2 committed to memory. 3 A. Can you ask the question again? 4 BY MS. BROWN: 5 Q. Sure. In supporting your view 6 that 60 percent of talcum powder products are 7 contaminated with asbestos, you've handed me 8 a chart that the lawyers gave you from 9 Dr. Hopkins' deposition and pointed me to an 10 entry of a test that Dr. Langer performed in 11 the 1970s, right? 12 MS. O'DELL: Object to the 13 form, misstates her testimony as to 14 the percentage. It's not what she 15 referred to. 16 A. That's the line I pointed at. 17 BY MS. BROWN: 18 Q. Okay. But to be fair, 19 Dr. Wolf, you are not familiar with the 20 testing that Dr. Langer did on talcum powder 21 products in the 1970s, right? 22 A. I am not. 23 Q. Okay. And you are certainly 24 not aware of the work that the Food and Drug</p>

<p style="text-align: right;">Page 122</p> <p>1 Administration did to check all of the work 2 that Dr. Langer did, correct? 3 MS. O'DELL: Object to the 4 form. 5 A. I am not aware of all of the 6 testing or checking that the FDA did to test 7 Dr. Langer's work. 8 BY MS. BROWN: 9 Q. And so in giving that 10 testimony, you were not aware that the FDA 11 tested that Dr. Langer sample and determined 12 there was no asbestos? 13 A. That specific -- 14 MS. O'DELL: Excuse me. 15 BY MS. BROWN: 16 Q. Let me just -- 17 MS. O'DELL: No. I get to -- 18 BY MS. BROWN: 19 Q. I need to ask my question. 20 MS. O'DELL: I need to have the 21 opportunity to object. If you'd give 22 me just a moment. Object to the form 23 of the question. Misstates the 24 record.</p>	<p style="text-align: right;">Page 124</p> <p>1 Q. Did you review the testing that 2 the FDA did of Johnson's Baby Powder in the 3 1970s? 4 MS. O'DELL: Object to the 5 form. 6 A. I don't recall reviewing in 7 detail the testing that they did. 8 BY MS. BROWN: 9 Q. Were you aware that the FDA 10 determined, based on its own testing of 11 Johnson's baby powder product in the 1970s, 12 that it was asbestos free? 13 MS. O'DELL: Object to the 14 form. 15 A. I was aware that they reported 16 that. 17 BY MS. BROWN: 18 Q. Did you consider the finding of 19 the United States Food and Drug 20 Administration's own testing of baby powder's 21 product, before coming to your opinion that 22 60 percent of baby powder is contaminated 23 with asbestos? 24 MS. O'DELL: Object to the</p>
<p style="text-align: right;">Page 123</p> <p>1 MS. BROWN: But here's what 2 happened. I didn't get the question 3 out. 4 MS. O'DELL: Yes, you did. 5 MS. BROWN: So let me get the 6 question on the record -- 7 MS. O'DELL: Yes, you did. 8 MS. BROWN: -- and then we'll 9 leave time for Ms. O'Dell to object 10 and then, Doctor, you can answer. 11 So my question was, you're not 12 aware that the FDA tested all of the 13 Langer samples that were conducted in 14 the 1970s and determined that J&J's 15 product was free from asbestos, right? 16 MS. O'DELL: Object to the 17 form, misstates the record. 18 A. I'm not aware that the FDA 19 tested all of Dr. Langer's testing, no. 20 BY MS. BROWN: 21 Q. Were you aware that the FDA 22 tested Johnson & Johnson's baby powder in the 23 1970s at all? 24 A. Yes.</p>	<p style="text-align: right;">Page 125</p> <p>1 form. 2 A. What I said, I believe, was 3 that what I saw of the samples that I saw 4 tested, 60 percent showed evidence. I'm not 5 saying that -- I didn't say that -- what I 6 said was, of what I saw, 60 percent showed 7 evidence of asbestos. 8 BY MS. BROWN: 9 Q. And you're getting that 60 10 percent figure from an expert report for a 11 plaintiffs' lawyer in litigation, correct? 12 MS. O'DELL: Object to the 13 form. 14 A. Are you referring to the Longo 15 and Rigler report? 16 BY MS. BROWN: 17 Q. I am. 18 A. Yes. 19 Q. Okay. So the basis for your 20 opinion that 60 percent of baby powder 21 products are contaminated with asbestos is a 22 plaintiffs' expert report in litigation. 23 True? 24 MS. O'DELL: Object to the</p>

<p style="text-align: right;">Page 126</p> <p>1 form.</p> <p>2 A. My -- 60 percent of what I saw</p> <p>3 tested had evidence.</p> <p>4 BY MS. BROWN:</p> <p>5 Q. So the entire basis of your</p> <p>6 opinion that 60 percent of what was tested</p> <p>7 had asbestos comes from this Longo report,</p> <p>8 right?</p> <p>9 MS. O'DELL: Object to the</p> <p>10 form.</p> <p>11 A. 60 percent of what I saw.</p> <p>12 BY MS. BROWN:</p> <p>13 Q. What methodology did you employ</p> <p>14 in terms of weighting the evidence from</p> <p>15 Dr. Longo, a plaintiffs' expert witness, or</p> <p>16 the Food and Drug Administration?</p> <p>17 MS. O'DELL: Object to the</p> <p>18 form.</p> <p>19 A. I will have to say I took them</p> <p>20 both into consideration. Given that there's</p> <p>21 been a continued concern since the 1970s and</p> <p>22 beyond, that there is a relationship with</p> <p>23 general talcum powder use and ovarian cancer,</p> <p>24 I had to look at all of the information. And</p>	<p style="text-align: right;">Page 128</p> <p>1 tested baby powder in 2009 and 2010?</p> <p>2 A. I don't recall.</p> <p>3 Q. Is it important to you, to have</p> <p>4 considered that information before offering</p> <p>5 an expert opinion that baby powder's</p> <p>6 contaminated with asbestos?</p> <p>7 MS. O'DELL: Object to the</p> <p>8 form.</p> <p>9 A. Can you show me that</p> <p>10 information?</p> <p>11 BY MS. BROWN:</p> <p>12 Q. Sure.</p> <p>13 THE WITNESS: Can you pull up</p> <p>14 the Longo report for me?</p> <p>15 (Deposition Exhibit 9 marked</p> <p>16 for identification.)</p> <p>17 BY MS. BROWN:</p> <p>18 Q. I'm marking, Dr. Wolf, as</p> <p>19 Exhibit 9 to your deposition, a printout from</p> <p>20 the FDA's website regarding talc, and this,</p> <p>21 I'll represent to you, is a report from the</p> <p>22 FDA's testing of baby powder products for</p> <p>23 asbestos in 2009-2010. Certainly take as</p> <p>24 long as you need to review it, but I'd refer</p>
<p style="text-align: right;">Page 127</p> <p>1 if there is any asbestos in baby powder, it's</p> <p>2 one of the components that could be</p> <p>3 carcinogenic.</p> <p>4 BY MS. BROWN:</p> <p>5 Q. Okay. We're talking about the</p> <p>6 basis for your opinion to believe there is</p> <p>7 asbestos in baby powder. Are you with me?</p> <p>8 MS. O'DELL: Object to the</p> <p>9 form.</p> <p>10 A. Yes.</p> <p>11 BY MS. BROWN:</p> <p>12 Q. Okay. And I understand one of</p> <p>13 the things you relied on was Dr. Longo's</p> <p>14 report, right?</p> <p>15 A. Yes.</p> <p>16 Q. And you are testifying that you</p> <p>17 also took into consideration the FDA's</p> <p>18 testing in the 1970s, correct?</p> <p>19 A. Yes.</p> <p>20 Q. Did you consider the FDA's</p> <p>21 testing in 2009 and 2010?</p> <p>22 A. I'd have to look at that</p> <p>23 information.</p> <p>24 Q. Did you know that the FDA</p>	<p style="text-align: right;">Page 129</p> <p>1 you to the very last page, which tests the</p> <p>2 Johnson's baby powder product and reports, by</p> <p>3 both PLM and TEM, no asbestos.</p> <p>4 MS. O'DELL: Would you -- would</p> <p>5 you mind -- is it 9? Exhibit 9?</p> <p>6 MS. BROWN: Yes. Sorry,</p> <p>7 Exhibit 9. Sorry.</p> <p>8 MS. O'DELL: And feel free to</p> <p>9 take an opportunity to review</p> <p>10 Exhibit 9, Dr. Wolf.</p> <p>11 BY MS. BROWN:</p> <p>12 Q. Dr. Wolf, I see you're looking</p> <p>13 at the Longo report, which I'm going to give</p> <p>14 you plenty of time to look at, but I just</p> <p>15 want to ask you a question about Exhibit 9,</p> <p>16 the FDA's testing.</p> <p>17 A. And what is your question?</p> <p>18 Q. Were you aware of the FDA's</p> <p>19 testing of Johnson's baby powder products in</p> <p>20 2009 and 2010?</p> <p>21 A. I can't recall specifically</p> <p>22 that I was aware of that. Am I surprised</p> <p>23 that they tested? I'm not.</p> <p>24 Q. Right. So what -- did you</p>

<p style="text-align: right;">Page 130</p> <p>1 consider third-party testing of Johnson's 2 baby powder, like Princeton, MIT, Colorado 3 School of Mines? Did you consider any of 4 those testings? 5 MS. O'DELL: Object to the 6 form. 7 A. Well, some of those were on 8 this report. 9 BY MS. BROWN: 10 Q. Did you consider the testing 11 that they did in connection with the 1970s 12 Langer findings that determined there was no 13 asbestos in Johnson's baby powder? 14 MS. O'DELL: Object to the 15 form, misstates the record. 16 A. I'm getting a little confused 17 about what you're asking, about "the 18 consider." I mean, I considered everything 19 that I saw. 20 BY MS. BROWN: 21 Q. And that's what I'm trying to 22 find out. So I understand you are here today 23 giving us an opinion that baby powder 24 contains asbestos. True?</p>	<p style="text-align: right;">Page 132</p> <p>1 A. Yes. As well as the Hopkins 2 data. 3 BY MS. BROWN: 4 Q. But we talked about -- 5 MS. O'DELL: Excuse me. 6 Dr. Wolf, when you say the "Hopkins 7 data," are you referring to the 8 Exhibit 28? 9 THE WITNESS: Yes. 10 BY MS. BROWN: 11 Q. We talked about Exhibit 28, 12 Doctor, and admittedly you're not able to 13 interpret the testing methods that were used 14 there, correct? 15 MS. O'DELL: Object to the 16 commentary. It's not what she said. 17 It misrepresents her testimony. 18 A. You asked me about -- 19 MS. BROWN: Hold on. 20 BY MS. BROWN: 21 Q. Your counsel thinks I'm 22 misrepresenting your testimony and I 23 certainly don't mean to do that. We agreed, 24 Doctor, did we not, that you're not a</p>
<p style="text-align: right;">Page 131</p> <p>1 A. Some baby powder, I believe, 2 contains asbestos, yes. 3 Q. What percentage of baby powder 4 contains asbestos? 5 A. It doesn't matter what 6 percentage to me, if any of it does. I'm 7 telling you the reports that I've seen, 60 8 percent in the testing that I've seen. I 9 don't care if that's -- if you took all baby 10 powder and it's 60 percent or not. If 11 there's any in there, it's a concern to me. 12 Q. Okay. So I understand you to 13 have an opinion there is asbestos in some 14 amount of baby powder, correct? 15 MS. O'DELL: Object to the 16 form. 17 A. In the testing that I've seen, 18 yes, I believe there's asbestos in some baby 19 powder. 20 BY MS. BROWN: 21 Q. Okay. And you're talking about 22 Dr. Longo's litigation testing, right? 23 MS. O'DELL: Object to the 24 form.</p>	<p style="text-align: right;">Page 133</p> <p>1 microscopist? 2 MS. O'DELL: Object to the 3 form. 4 A. See, when you say 5 "microscopist," I say that that -- that's a 6 term to me that means more than I think 7 you're meaning to say. I routinely look at 8 light microscopy, a pathology of gynecologic 9 cancers. So in that area, would you say I'm 10 a microscopist? I don't know. Do I 11 routinely look for asbestos? I do not. 12 BY MS. BROWN: 13 Q. Right. You don't hold yourself 14 out to the medical community as someone who 15 is qualified to look at bulk samples of baby 16 powder for the presence of asbestos. True? 17 A. I do not. 18 Q. You have never used a 19 transmission electron microscope. True? 20 A. I might have used one when I 21 was in medical school or a fellowship. 22 Q. It's not a regular part of your 23 practice to use TEM or SEM electron 24 microscopes. True?</p>

<p style="text-align: right;">Page 134</p> <p>1 A. It's not. 2 Q. Okay. We're going to have to 3 change the tape in a few minutes, but you 4 hold the opinion, do you not, Doctor, that 5 baby powder is contaminated with asbestos? 6 MS. O'DELL: Object to the 7 form, asked and answered. 8 A. I believe that some baby powder 9 contains asbestos. 10 BY MS. BROWN: 11 Q. Do you believe that to be true 12 in terms of current baby powder on the shelf? 13 A. The testing that I've seen goes 14 up through the 1990s. So that's all I can 15 speak to. 16 Q. Okay. You're not offering an 17 opinion that any baby powder after the 1990s 18 contains asbestos; is that right? 19 MS. O'DELL: Object to the 20 form. 21 A. I'm not offering any opinion 22 about what's in baby powder tests beyond 23 where I've seen testing of it. 24</p>	<p style="text-align: right;">Page 136</p> <p>1 you're asking me? I don't know -- I don't 2 have that information. 3 BY MS. BROWN: 4 Q. Have you reviewed Dr. Longo's 5 report on the samples he acquired, in part, 6 from eBay? 7 A. I'm laughing at eBay. 8 Q. I know. It sounds funny, 9 doesn't it? 10 MS. O'DELL: Object to the 11 form. 12 A. I believe there was some 13 commercial -- commercial products. I didn't 14 know it was eBay. But commercial product 15 that was off the shelf. 16 BY MS. BROWN: 17 Q. Did you review and are you 18 relying on Dr. Longo's report of vintage baby 19 powder bottles that he purchased on eBay? 20 MS. O'DELL: Object to the 21 form. 22 A. I'm just looking for his 23 sources. 24 (Witness reviews document.)</p>
<p style="text-align: right;">Page 135</p> <p>1 BY MS. BROWN: 2 Q. And the testing that you've 3 seen is in the form of Dr. Longo's report. 4 True? 5 A. Yes. 6 Q. Okay. Where did Dr. Longo get 7 the samples that he tested; do you know? 8 A. I thought that some of them -- 9 I'll have to look here again. From J&J. 10 Q. Did you review, Doctor -- and 11 when you say "J&J," do you mean the samples 12 that came through warehouses and were 13 archived in the J&J "museum"? 14 MS. O'DELL: Object to the 15 form, misstates the record. 16 BY MS. BROWN: 17 Q. Well, that's a good point. 18 MS. O'DELL: Testify to what 19 you've seen, Doctor. 20 A. What I see is the source of the 21 talcum powder for these J&J historical 22 samples came from Italian Vermont talc mines. 23 So they were J&J historical powder samples. 24 Where they were stored at J&J -- is that what</p>	<p style="text-align: right;">Page 137</p> <p>1 A. When I looked in this report 2 for where -- the materials and methods, I 3 don't see anything about eBay on here. 4 BY MS. BROWN: 5 Q. Did the lawyers for plaintiffs 6 give you Dr. Longo's prior reports? 7 A. Yes, they're here somewhere. 8 BY MS. BROWN: 9 Q. And I don't mean to have you 10 have to do homework here, Dr. Wolf. I just 11 want to know if you're relying on Dr. Longo's 12 testing of the eBay samples. 13 MS. O'DELL: Object to the 14 form. 15 A. I'm relying on whole -- the 16 whole of Dr. Longo's testing. 17 BY MS. BROWN: 18 Q. Okay. And explain to us how 19 you employed your methodology of the weight 20 of the evidence to evaluate Dr. Longo's 21 findings, the FDA's findings, third-party 22 institution findings? 23 MS. O'DELL: Objection to the 24 question, vague and unclear.</p>

<p style="text-align: right;">Page 138</p> <p>1 THE WITNESS: Am I to answer or 2 not answer? 3 MS. O'DELL: If you understand 4 the question. If you don't understand 5 the question, you may ask that it be 6 rephrased. 7 A. Can you rephrase the question? 8 BY MS. BROWN: 9 Q. How did you weight the evidence 10 contained in Hopkins Exhibit 28 in connection 11 with the findings of the FDA? 12 MS. O'DELL: Object to the 13 form. 14 A. I considered the weight of all 15 of the evidence in the whole of the risk of 16 talcum powder in ovarian cancer. This is a 17 small piece of it. 18 BY MS. BROWN: 19 Q. I want to concentrate just on 20 your opinion that there's asbestos in talc. 21 And I want to know, did you weight 22 Dr. Longo's litigation reports the same as 23 the testing by the FDA? 24 MS. O'DELL: Object to the form</p>	<p style="text-align: right;">Page 140</p> <p>1 of the documents that are cited in Hopkins' 2 Exhibit 28? 3 A. No. 4 Q. Do you know who created 5 Hopkins' Exhibit 28? 6 A. Specifically, no. 7 Q. Okay. Do you know whether 8 these represent final or preliminary test 9 results? 10 MS. O'DELL: Object to the 11 form. 12 A. I don't know. 13 BY MS. BROWN: 14 Q. Do you know whether the entries 15 that indicate testing of ore is industrial or 16 cosmetic talc ore? 17 A. I don't. 18 MS. O'DELL: Object to the 19 form. 20 BY MS. BROWN: 21 Q. Other than Hopkins' Exhibit 28, 22 Dr. Longo and the two FDA reports we've 23 discussed, are you relying on anything else 24 to inform your opinion that talcum powder is</p>
<p style="text-align: right;">Page 139</p> <p>1 of the question, misstates her 2 testimony. 3 MS. BROWN: It's a question. 4 There's no testimony. We've got to go 5 off anyway. Let's take a break. 6 THE VIDEOGRAPHER: Going off 7 the record. The time is 11:18 a.m. 8 (Recess taken from 11:18 a.m. 9 to 11:27 a.m.) 10 THE VIDEOGRAPHER: This marks 11 the beginning of disk 2. Back on the 12 record. The time is 11:27 a.m. 13 BY MS. BROWN: 14 Q. Dr. Wolf, before we took a 15 break, we were discussing your opinion that 16 talcum powder contains asbestos. I 17 understand you are relying in part on 18 Dr. Longo's reports for that opinion; is that 19 true? 20 A. Yes. 21 Q. You are also relying on the 22 Exhibit 28 to Dr. Hopkins' deposition. True? 23 A. Yes. 24 Q. And were you provided with any</p>	<p style="text-align: right;">Page 141</p> <p>1 contaminated with asbestos? 2 A. I also have the deposition of 3 Dr. Blount. 4 Q. And what in the deposition of 5 Dr. Blount informs your opinion that talc is 6 contaminated with asbestos? 7 A. Let me get it out. 8 THE WITNESS: It's probably 9 over there. This is not the right 10 reference. There it is. Sorry. I 11 even had it marked. 12 (Witness reviews document.) 13 BY MS. BROWN: 14 Q. Are you relying in part on 15 Dr. Blount's testimony, Dr. Wolf? 16 A. Yes. 17 Q. Have you reviewed Dr. Blount's 18 published articles? 19 A. I have one here from 1991. 20 Q. Did you review that in forming 21 your opinion that talc is contaminated? 22 A. I did review it, but I'm going 23 to have to look at it here one second. 24 (Witness reviews document.)</p>

<p style="text-align: right;">Page 142</p> <p>1 A. And the question is, did I use 2 this -- this -- this article that I have is 3 from 1991. I'm looking at my references. 4 Yes, I did -- did use this. 5 BY MS. BROWN: 6 Q. And when you say "this," is it 7 your testimony that you are relying on the 8 information contained in Blount's 1991 9 article to inform your opinion that talc is 10 contaminated with asbestos? 11 A. I'm relying on all of the -- 12 all of the references that I have in my list. 13 That's one of them. 14 Q. Well, some of these references 15 have nothing to do with Johnson's baby 16 powder, right? 17 A. Yes. The references that 18 specifically are the testing for Johnson's 19 baby powder that I'm relying on for my 20 statement that some baby -- some talcum 21 powder product contains asbestos, are the 22 Hopkins data that I showed you, the Longo 23 testing and the deposition of Dr. Blount. 24 Q. So did you write the paragraph</p>	<p style="text-align: right;">Page 144</p> <p>1 products that are contaminated with asbestos 2 are Johnson & Johnson baby powder products? 3 A. Let me look at one thing and 4 then I'll answer your question. 5 (Witness reviews document.) 6 A. Given that the market of 7 Johnson -- of talcum powder products is -- 8 the majority is Johnson's baby powder and 9 Johnson & Johnson products. I'm assuming 10 that in this, where they've got consumer 11 products, that some of those were Johnson & 12 Johnson. 13 BY MS. BROWN: 14 Q. And you understand that some of 15 the consumer products they tested did not 16 have asbestos? 17 A. Yes. 18 Q. Did you understand that? 19 A. I understand that. 20 Q. Okay. What informs your 21 opinion that the products that were all 22 tested in 1976, in which he found asbestos, 23 were Johnson & Johnson products? 24 MS. O'DELL: Object to the</p>
<p style="text-align: right;">Page 143</p> <p>1 that cites, for example, Paoletti and Rohl 2 1976? 3 A. Yes. 4 Q. Okay. Why would you include 5 Rohl 1976 as evidence that talcum powder -- 6 Johnson's baby powder is contaminated? 7 A. I'd have to read it again to 8 tell you what specifically I pulled out of 9 there. Would you like me to do that? 10 Q. Let me see if I can ask you 11 some questions and save us some time. The 12 article -- 13 MS. O'DELL: Excuse me. Feel 14 free to turn to it, if you'd like. 15 THE WITNESS: All right. 16 MS. O'DELL: I believe it's in 17 this one. 18 BY MS. BROWN: 19 Q. The article reports on some 20 products tested being contaminated and others 21 not. Do you remember that? 22 A. Yeah. 23 Q. And what information are you 24 relying on to support your opinion that the</p>	<p style="text-align: right;">Page 145</p> <p>1 form. 2 A. That each one specifically that 3 was tested is a Johnson & Johnson product? 4 Is that what you're asking me? 5 BY MS. BROWN: 6 Q. Are you relying on Rohl 1976 to 7 support your opinion that Johnson's baby 8 powder is contaminated with asbestos? 9 A. This was a consumer talcum 10 powder product. The majority of consumer 11 talcum powder product is Johnson & Johnson. 12 I'm assuming that some of this is Johnson & 13 Johnson. Some of it tested positive. That, 14 along with all of the other evidence, leads 15 many to have the opinion that some Johnson & 16 Johnson talcum powder products contain 17 asbestos. 18 Q. You have assumed that some of 19 the positive test results from Rohl 1976 were 20 Johnson & Johnson products; is that right? 21 MS. O'DELL: Object to the 22 form. 23 A. I'm assuming that some of them 24 were.</p>

<p style="text-align: right;">Page 146</p> <p>1 BY MS. BROWN: 2 Q. And other than your assumption, 3 are you relying on any other information for 4 your -- to support your opinion that Rohl 5 1976 tested Johnson baby powder products and 6 found asbestos? 7 A. The fact that the majority of 8 consumer products are made by Johnson & 9 Johnson. 10 Q. So Dr. Wolf, as I understand 11 your methodology, you've made an assumption, 12 that because the majority of talcum powder 13 products are made by J&J, the positive 14 results in the Rohl study must have included 15 J&J products? 16 A. I used -- I -- what I'm saying 17 is that this supports all the other evidence 18 that there's been asbestos found in some 19 Johnson & Johnson products. 20 Q. Right. But my question was a 21 little different. You've made an assumption, 22 that because J&J sells a lot of talcum powder 23 products, they must be one of the positive 24 test results in the Rohl 1976 article. True?</p>	<p style="text-align: right;">Page 148</p> <p>1 that -- that the majority of the products are 2 Johnson -- sold products -- consumer products 3 are Johnson & Johnson, that I -- I do assume 4 that some of the ones that were tested in 5 this are Johnson & Johnson. I took that 6 information and put it with the other 7 information to make my conclusion. 8 BY MS. BROWN: 9 Q. And if you were wrong about 10 your assumption regarding Rohl 1976, how 11 would that affect your opinion here? 12 A. I don't believe it would affect 13 my opinion that talcum powder products 14 include asbestos. So I don't think it would 15 change my opinion. 16 Q. So whether Rohl found a 17 positive test result for a Johnson & Johnson 18 product or not doesn't affect your opinion; 19 is that right? 20 MS. O'DELL: Objection to the 21 form. 22 A. My concern is that overall 23 multiple testing, over multiple years from 24 multiple sites, suggests that some talcum</p>
<p style="text-align: right;">Page 147</p> <p>1 MS. O'DELL: Object to the 2 form, it misstates Dr. Wolf's 3 testimony. 4 A. I don't believe that's what I 5 said. I believe that -- my assumption is 6 that some of the powder tested in this is 7 Johnson & Johnson product. Some of the 8 powder tested in this tested positive for 9 asbestos. 10 In the other studies some of 11 the powder tested, some of which was Johnson 12 & Johnson, some of which might be from some 13 other company, tested positive, and therefore 14 the whole of the evidence, in my belief, 15 shows that some Johnson & Johnson product -- 16 talcum powder products contain asbestos. 17 BY MS. BROWN: 18 Q. You've made an assumption that 19 Johnson & Johnson's baby powder products that 20 were tested by Rohl in 1976 contained 21 asbestos, correct? 22 MS. O'DELL: Object to the 23 form. 24 A. My answer remains the same</p>	<p style="text-align: right;">Page 149</p> <p>1 powder product contains asbestos. 2 BY MS. BROWN: 3 Q. Have you formed an opinion 4 about what percentage of Johnson & Johnson 5 talcum powder product contains asbestos? 6 A. I don't care what percentage 7 does. If there's any in it, it's too much. 8 Q. Okay. But we're going to get 9 through this so much faster if you just 10 listen to my question. Which was, have you 11 formed an opinion about how much of Johnson & 12 Johnson's talcum powder products are 13 contaminated with asbestos? 14 MS. O'DELL: Excuse me, 15 Dr. Wolf. Move to strike the 16 commentary. You may answer the 17 questions in any way you feel 18 appropriate, Dr. Wolf. So object to 19 the form of the question. 20 A. Sorry, you're going to -- what 21 your question was again. 22 BY MS. BROWN: 23 Q. I'll re-ask it, rather than 24 have you read the realtime, Doctor. Have you</p>

<p style="text-align: right;">Page 150</p> <p>1 attempted to quantify or estimate what 2 percentage of Johnson & Johnson powder -- 3 Johnson & Johnson baby powder products are 4 contaminated with asbestos? 5 MS. O'DELL: Object to the 6 form. 7 A. I haven't attempted to quantify 8 what percentage of Johnson & Johnson baby 9 powder products contain asbestos. I hold the 10 opinion that if any of it contains asbestos, 11 it's too much. 12 BY MS. BROWN: 13 Q. Have you formed an opinion 14 about what type of asbestos is contaminating 15 Johnson & Johnson baby powder products? 16 A. It doesn't matter to me. All 17 types of asbestos are carcinogenic. 18 Q. And that wasn't my question. 19 My question was, have you formed an opinion 20 about what type of asbestos is contaminating 21 Johnson & Johnson's baby powder products? 22 MS. O'DELL: Excuse me. Object 23 to the form of the question, asked and 24 answered.</p>	<p style="text-align: right;">Page 152</p> <p>1 dangerous. 2 BY MS. BROWN: 3 Q. And in terms of your 4 methodology for analyzing the epidemiology in 5 this case, have you done that with an 6 assumption that the talcum powder evaluated 7 in the epi contained asbestos? 8 A. That question is not clear to 9 me. Are you -- 10 Q. Let me rephrase. I understand 11 you looked at a number of epi studies in 12 forming your opinion here, correct? 13 A. Yes. 14 Q. Have you made the assumption 15 that the talcum powder that was studied in 16 those epi studies contained asbestos? 17 MS. O'DELL: Object to the 18 form. 19 A. So I'm going to say that when 20 I -- when reviewing all of the studies, I 21 wasn't really thinking specifically about the 22 components of talcum powder product. I was 23 looking at the epidemiology of the findings 24 of talcum powder product and its risk for</p>
<p style="text-align: right;">Page 151</p> <p>1 A. I'll restate that. Because it 2 doesn't matter to me what -- which type of 3 asbestos might be contained in a sample of 4 Johnson & Johnson's talcum powder product, I 5 don't have any opinion as to what type. 6 BY MS. BROWN: 7 Q. Do you have an opinion as to 8 how much contamination is in each individual 9 bottle of Johnson & Johnson's baby powder? 10 MS. O'DELL: Object to the 11 form. 12 A. Because it doesn't matter to me 13 how much there is, whether it's a small 14 amount, a large amount, a medium amount, my 15 concern is that if there's any in it, it's 16 dangerous; I haven't formed an opinion about 17 how much there is. 18 BY MS. BROWN: 19 Q. Do you believe that there's no 20 amount of asbestos that's safe? 21 MS. O'DELL: Object to the 22 form. 23 A. I believe that any amount of 24 asbestos in talcum powder product is</p>	<p style="text-align: right;">Page 153</p> <p>1 ovarian cancer, and then separately, in 2 investigating and looking at all the 3 components of talcum powder as a way to 4 explain the results of the epidemiology 5 studies. 6 So I'm not -- in the end, as a 7 whole -- it's part of the whole, but 8 specifically looking at the epidemiology 9 studies, that wasn't my biggest concern. My 10 concern was, did the use of genital talcum 11 powder increase the risk of ovarian cancer? 12 BY MS. BROWN: 13 Q. Do you believe that talc that's 14 not contaminated with asbestos can cause 15 ovarian cancer? 16 A. I think of the product as a 17 whole versus separate, and my concern is that 18 in the talcum powder product, whether or not 19 a particular sample has asbestos, yes, there 20 are other things in there that can be 21 carcinogenic and inflammatory and cause 22 ovarian cancer. 23 Q. Do you believe that talcum 24 powder without asbestos causes ovarian</p>

<p style="text-align: right;">Page 154</p> <p>1 cancer?</p> <p>2 MS. O'DELL: Objection to the</p> <p>3 form.</p> <p>4 A. I believe that asbestos is one</p> <p>5 of the products -- one of the components of</p> <p>6 talcum powder that causes carcinogenesis of</p> <p>7 the ovary or cancer of the ovary, but I think</p> <p>8 that in a specific sample, whether or not</p> <p>9 there's asbestos, there's enough other</p> <p>10 products that can be carcinogenic that, yes,</p> <p>11 I think it's still at risk.</p> <p>12 BY MS. BROWN:</p> <p>13 Q. Okay. Have you reviewed, in</p> <p>14 connection with your opinions, Doctor, IARC's</p> <p>15 review of asbestos?</p> <p>16 A. Yes.</p> <p>17 Q. Do you believe that asbestos is</p> <p>18 a recognized cause of ovarian cancer?</p> <p>19 A. Yes.</p> <p>20 Q. Have you ever diagnosed a</p> <p>21 patient with ovarian cancer caused by</p> <p>22 asbestos?</p> <p>23 A. I have, that I can recall, at</p> <p>24 least one patient.</p>	<p style="text-align: right;">Page 156</p> <p>1 physician when you treated this patient?</p> <p>2 A. At MD Anderson.</p> <p>3 Q. You'd agree that the literature</p> <p>4 that IARC relies upon in finding that</p> <p>5 asbestos can cause ovarian cancer is in the</p> <p>6 occupational context?</p> <p>7 MS. O'DELL: Object to the</p> <p>8 form.</p> <p>9 A. Yes, I would say that they</p> <p>10 looked at inhalation generally and dermal</p> <p>11 contact, yes.</p> <p>12 BY MS. BROWN:</p> <p>13 Q. And they looked at that in the</p> <p>14 heavy occupational exposure context, correct?</p> <p>15 MS. O'DELL: Objection to the</p> <p>16 form.</p> <p>17 A. You know, I'd have to look at</p> <p>18 the wording in that IARC again to answer that</p> <p>19 question.</p> <p>20 BY MS. BROWN:</p> <p>21 Q. Dr. Wolf, I'll hand -- we'll</p> <p>22 mark as Exhibit 10, IARC's monograph on</p> <p>23 asbestos and ovarian cancer.</p> <p>24</p>
<p style="text-align: right;">Page 155</p> <p>1 Q. And what was the asbestos</p> <p>2 exposure of this patient encounter?</p> <p>3 A. I don't recall. It was a long</p> <p>4 time ago.</p> <p>5 Q. And you documented in a</p> <p>6 patient's chart that you believed her ovarian</p> <p>7 cancer was caused by asbestos?</p> <p>8 A. I'd have to go back and review</p> <p>9 the chart. I don't think I, personally, put</p> <p>10 that in the chart. I'd have to review the</p> <p>11 chart. It may be in her chart, in the</p> <p>12 pathology report that they saw evidence of</p> <p>13 fibers in the cancer. It might be it was her</p> <p>14 exposure. I just remember one patient where</p> <p>15 I went and reviewed the literature on</p> <p>16 asbestos in ovarian cancer because that was</p> <p>17 the concern.</p> <p>18 Q. Did this patient have</p> <p>19 occupational exposure to asbestos?</p> <p>20 A. I don't recall.</p> <p>21 Q. You --</p> <p>22 A. And I don't have access to her</p> <p>23 medical records.</p> <p>24 Q. Where were you the treating</p>	<p style="text-align: right;">Page 157</p> <p>1 (Deposition Exhibit 10 marked</p> <p>2 for identification.)</p> <p>3 BY MS. BROWN:</p> <p>4 Q. I'll direct your attention to</p> <p>5 page 256. Did you review all of the studies</p> <p>6 in this monograph before forming your</p> <p>7 opinions in this case?</p> <p>8 MS. O'DELL: Do you have a copy</p> <p>9 for me, Counsel?</p> <p>10 A. Are you asking did I separately</p> <p>11 read all of the articles in this monograph?</p> <p>12 BY MS. BROWN:</p> <p>13 Q. Yes.</p> <p>14 A. The references?</p> <p>15 MS. O'DELL: Counsel, excuse</p> <p>16 me. Can I just ask, is this going to</p> <p>17 be Exhibit 10?</p> <p>18 MS. BROWN: No, I marked</p> <p>19 Exhibit 10.</p> <p>20 MS. O'DELL: Okay. This is --</p> <p>21 A. I don't think I reviewed all of</p> <p>22 these articles.</p> <p>23 BY MS. BROWN:</p> <p>24 Q. Do the asbestos studies that</p>

<p style="text-align: right;">Page 158</p> <p>1 IARC relies on in what we've marked as 2 Exhibit 10, inform your opinion in this case? 3 A. My opinion that asbestos causes 4 cancer? 5 Q. Yes. 6 A. It's part of the opinion, yes. 7 Q. What do you rely on to support 8 your opinion that asbestos causes ovarian 9 cancer? 10 A. I would say that this and all 11 of the literature. And some of this 12 literature, I believe, is in my 13 contributing -- contributing materials that I 14 reviewed. The Reid paper, the Langseth 15 paper, the Magnani paper. Just didn't read 16 them all, but all of their references. 17 Q. And you would agree that the 18 studies that IARC reviewed were in the heavy 19 occupational exposure context, correct? 20 MS. O'DELL: Object to the 21 form. 22 A. Occupationally exposed. 23 BY MS. BROWN: 24 Q. Let's look at page 256, the</p>	<p style="text-align: right;">Page 160</p> <p>1 statistically significant increase of ovarian 2 cancer, correct? 3 MS. O'DELL: Object to the 4 form. 5 A. There's an increase, but not a 6 statistically significant increase. 7 BY MS. BROWN: 8 Q. Well, that's an important 9 distinction, isn't it, Doctor? 10 A. So it would be -- it would be 11 stronger evidence if it was statistically 12 significant. I'm not writing it off as not 13 important, because the overall conclusion is 14 that asbestos increases the risk of ovarian 15 cancer. And I certainly wouldn't suggest 16 that anyone expose themselves to asbestos, 17 whether it's an occupational hazard or not, 18 not just for its risk of ovarian cancer, but 19 for the risk of other cancers, lung cancers, 20 pleural cancers, renal cancers. 21 Q. The only studies on which IARC 22 relies to support its conclusion that 23 asbestos causes ovarian cancer that have a 24 statistically significant finding are in the</p>
<p style="text-align: right;">Page 159</p> <p>1 second column, the first full paragraph. 2 "The Working Group noted that a causal 3 association between exposure to asbestos and 4 cancer of the ovary was clearly established 5 based on five strongly positive cohort 6 mortality studies of women with heavy 7 occupational exposure to asbestos." 8 Right? 9 MS. O'DELL: Object to the 10 form. 11 BY MS. BROWN: 12 Q. That's what IARC concluded, 13 right? 14 MS. O'DELL: Object to the 15 form. 16 A. Well, that's part of the 17 conclusion. The next study shows that women 18 and girls with environmental but not exposure 19 to -- occupational exposure had positive but 20 not a significant increase in ovarian cancer 21 also. 22 BY MS. BROWN: 23 Q. Right. The environmental 24 studies that IARC considered did not show a</p>	<p style="text-align: right;">Page 161</p> <p>1 heavy occupational context, correct? 2 MS. O'DELL: Object to the 3 form. 4 A. In that paragraph, that's what 5 it says. 6 BY MS. BROWN: 7 Q. Do you believe that studies 8 looking at women who are experiencing heavy 9 occupational exposure to asbestos, can be 10 relied on in the cosmetic exposure context? 11 A. Can be relied on -- 12 Q. Do you think that women 13 experiencing heavy occupational exposure to 14 asbestos are exposed to the same amount of 15 asbestos as women using talcum powder 16 perineally? 17 A. I don't know the answer to 18 that. 19 Q. Have you attempted to quantify 20 the difference between heavy occupational 21 asbestos exposure and perineal talc asbestos 22 exposure? 23 MS. O'DELL: Objection to the 24 form.</p>

<p style="text-align: right;">Page 162</p> <p>1 A. I haven't attempted to 2 quantify. But if we go back to what I'm 3 talking about here is the talcum powder 4 product, which I believe some of which 5 contains asbestos but also contains fibrous 6 talc, heavy metals and fragrances that are 7 irritating. So it's hard -- it's apples and 8 oranges. It's asbestos occupationally that 9 we're saying here. It's a talcum powder 10 product of which one of the concerning 11 components is asbestos and so it's more than 12 just asbestos. 13 BY MS. BROWN: 14 Q. Are you aware of any scientific 15 literature that has attempted to quantify the 16 difference in exposure between heavy 17 occupational asbestos exposure and cosmetic 18 talcum powder use? 19 A. Of asbestos specifically, is 20 that what you're asking me? What are you 21 asking? 22 Q. Are you aware of any scientific 23 literature that attempts to quantify the 24 difference between how much a woman is</p>	<p style="text-align: right;">Page 164</p> <p>1 environmental asbestos. I don't know if 2 those women used talcum powder in their 3 perineum. But again, talcum powder product 4 is more than asbestos. 5 BY MS. BROWN: 6 Q. Are you relying on the 7 nonstatistically significant findings in the 8 environmental studies of women exposed to 9 asbestos to support your view that cosmetic 10 talcum powder exposure causes ovarian cancer? 11 MS. O'DELL: Object to the 12 form. 13 A. I'm relying on the fact that 14 asbestos is carcinogenic, fibrous talc is 15 carcinogenic, platy talc via IARC is a 16 possible carcinogenic, heavy metals, chromium 17 and nickel are carcinogenic, cobalt is 18 possibly carcinogenic and many of the 19 fragrances in talcum powder product are 20 irritating, that that combination of product 21 causes ovarian cancer in some women and puts 22 any woman who uses it on her perineum at 23 risk -- increased risk for ovarian cancer. 24</p>
<p style="text-align: right;">Page 163</p> <p>1 exposed -- how much asbestos a woman is 2 exposed to in the occupational context versus 3 if she uses a cosmetic talcum powder product 4 that you believe is contaminated with 5 asbestos? 6 MS. O'DELL: Object to the 7 form. 8 A. I'm not aware of any literature 9 that specifically would answer that question 10 because how much, how often the talcum powder 11 is used would have -- would differentiate 12 there. 13 BY MS. BROWN: 14 Q. Are you aware of any scientific 15 support that exposure -- nonoccupational 16 exposure to asbestos causes ovarian cancer? 17 MS. O'DELL: Object to the 18 form, asked and answered. 19 A. So these papers referred here, 20 in fact the Reid paper, suggests that in 21 nonoccupational exposure, there's an 22 increase, although not a statistically 23 significant risk of ovarian cancer in women 24 exposed to what would be presumed to be</p>	<p style="text-align: right;">Page 165</p> <p>1 BY MS. BROWN: 2 Q. Other than the nonstatistically 3 significant studies discussed in IARC's 4 monograph on asbestos, are you aware of any 5 scientific support linking asbestos to 6 ovarian cancer outside of the heavy 7 occupational context? 8 MS. O'DELL: Object to the 9 form, asked and answered. 10 A. I'm going to say I'm not aware 11 of that, but it doesn't form my opinion. I'm 12 going to go back to -- and I know I keep 13 repeating the same thing over again -- it's 14 not the asbestos alone. Asbestos is one of 15 the -- one of the issues that's a component 16 of talcum powder product that I'm concerned 17 about, that I believe the combination of all 18 of those things can increase the risk of 19 ovarian cancer. 20 BY MS. BROWN: 21 Q. Isn't it important for you to 22 know or have established how much asbestos 23 you believe is contaminating baby powder 24 products before you can make that opinion?</p>

<p style="text-align: right;">Page 166</p> <p>1 MS. O'DELL: Object to the 2 form. 3 A. To me it is not and that's 4 because if -- if things work in an additive 5 or synergistic way, the amount of asbestos 6 that on its own might increase or not 7 increase the risk of ovarian cancer is 8 separate from the amount of asbestos that in 9 combination with all of the other components 10 might increase the risk of ovarian cancer. 11 BY MS. BROWN: 12 Q. What scientific support do you 13 have for your opinion that asbestos works in 14 an additive way with the other constituents 15 of talcum powder to increase a woman's risk 16 for ovarian cancer? 17 A. I don't know that specifically 18 for asbestos, but I know that in general, 19 cancer doesn't occur because of one thing; it 20 occurs because of multiple things. And that 21 toxins can work in combination and that 22 causes of cancer can work in combination. 23 For instance, the human papilloma virus 24 causes cervical cancer, but if you smoke on</p>	<p style="text-align: right;">Page 168</p> <p>1 know, as far as my understanding, there isn't 2 a study that's taken one out and looked at 3 the difference in carcinogenicity, whether 4 one or the other is not there, but it doesn't 5 matter to me because they're there. Asbestos 6 is carcinogenic. Heavy metals are 7 carcinogenic. Nickel and chromium. Platy 8 talc is possibly carcinogenic. Fibrous talc 9 is asbestos. It's carcinogenic. 10 BY MS. BROWN: 11 Q. Is there a threshold exposure 12 to asbestos in your mind that is needed to 13 cause ovarian cancer? 14 A. Are you asking about asbestos 15 on its own? 16 Q. Asbestos on its own. 17 A. I'm not aware what that 18 threshold is. 19 Q. Have you attempted to survey 20 the literature to see if there is any 21 scientific studies examining whether there is 22 a threshold level of asbestos exposure that 23 causes ovarian cancer? 24 MS. O'DELL: Object to the</p>
<p style="text-align: right;">Page 167</p> <p>1 top of that, your risk of cervical cancer is 2 greater than if you don't smoke. 3 So things can be additive and 4 are synergistic. I don't know if these are 5 additive and/or synergistic. My concern is 6 that they're all toxic and more than likely, 7 I suspect, there are some additivity plus or 8 minus synergism. 9 Q. So if I understand you, 10 Dr. Wolf, you have an understanding generally 11 that multiple factors can work together to 12 cause cancer; is that fair? 13 A. That's correct. 14 MS. O'DELL: Object to form. 15 BY MS. BROWN: 16 Q. As it relates to whether or not 17 multiple elements of a talcum powder product 18 work together to form -- to increase a 19 woman's risk of cancer, you're not aware of 20 any scientific support for that opinion. 21 True? 22 MS. O'DELL: Object to the 23 form. 24 A. I'm not aware of -- as far as I</p>	<p style="text-align: right;">Page 169</p> <p>1 form. 2 A. Hold on one second. Because 3 I'm looking on my papers about an asbestos 4 exposure, but those are not human studies. 5 So my -- my brain says how I would test that, 6 would be to give humans varying amounts of 7 asbestos knowing what you're giving them and 8 seeing who got cancer or not, and that study 9 hasn't been done and can't be done. 10 BY MS. BROWN: 11 Q. And other than kind of your gut 12 or your understanding about how cancer works, 13 is there anything else you're relying on in 14 the scientific literature to support this 15 idea that asbestos is working in combination 16 with something else in talcum powder to 17 increase a woman's risk for ovarian cancer? 18 MS. O'DELL: Object to the 19 form. 20 A. So I'm going to step back and 21 say that my point is that all of those 22 components are toxic in talcum powder. How 23 much asbestos is in there on its own doesn't 24 matter to me because if it's in there and</p>

<p style="text-align: right;">Page 170</p> <p>1 this is in there and this is in there and 2 this is in there, and what I mean is fibrous 3 talc, platy talc, heavy metal, irritating 4 fragrances, it doesn't matter to me how much 5 asbestos is in there. If there's a sample of 6 baby powder that doesn't have asbestos in 7 there, it doesn't matter, because all of 8 those other things also are carcinogenic or 9 possibly carcinogenic or irritating and 10 inflammatory. 11 BY MS. BROWN: 12 Q. So in forming your opinions in 13 this case, Dr. Wolf, it is not important to 14 you to know the chemical composition of an 15 individual bottle of talcum powder; is that 16 right? 17 MS. O'DELL: Object to the 18 form. 19 A. In women who use talcum powder 20 on their perineum, if they're using it 21 regularly, whatever -- however that is 22 defined as once a day, once a week, twice a 23 day, over a period of years they're going to 24 be exposed to more than one bottle of baby --</p>	<p style="text-align: right;">Page 172</p> <p>1 you're going to change your testimony from 2 earlier this morning? 3 MS. O'DELL: Object to the 4 commentary. She's not changing her 5 testimony. She's referred to 6 Dr. Crowley numerous times in her 7 deposition thus far. 8 BY MS. BROWN: 9 Q. Dr. Wolf, you remember telling 10 me this morning you didn't look at anybody's 11 expert report before you wrote yours, right? 12 A. Yes. But I was incorrect, and 13 I'm clarifying it now, because I did see 14 Dr. Crowley's report and I did see 15 Dr. Longo's report. 16 Q. Did you rely on Dr. Crowley's 17 report in forming the opinions in your 18 report? 19 A. About the fragrances, yes. 20 Q. When did you see Dr. Crowley's 21 report? 22 A. Sometime before I turned my 23 report in so that I had time to review it. 24 Q. Did you see a draft version of</p>
<p style="text-align: right;">Page 171</p> <p>1 of talcum powder product. And so whether one 2 of those bottles did or did not have asbestos 3 in it doesn't matter to me. 4 BY MS. BROWN: 5 Q. Because in your view, there are 6 other things in talcum powder that cause 7 cancer? 8 A. Because there are other things 9 in talcum powder that are carcinogenic or 10 possibly carcinogenic, and if a woman has 11 used more than one bottle over her lifetime, 12 the chances are pretty high that one of those 13 bottles did contain asbestos in addition to 14 the others. 15 Q. Is it your opinion that the 16 fragrances in Johnson & Johnson's baby powder 17 cause ovarian cancer? 18 A. No, I never stated that. It's 19 my opinion that some of them are known 20 irritants or can be inflammatory, and that 21 was from Dr. Crowley's report, which I did 22 see before I wrote my report, his expert 23 report. 24 Q. Time-out. Time-out. Are we --</p>	<p style="text-align: right;">Page 173</p> <p>1 Dr. Crowley's report? 2 A. I think I saw his final report. 3 Q. How many days did you spend 4 reviewing Dr. Crowley's report? 5 MS. O'DELL: Object to the 6 form. 7 A. I don't recall. 8 BY MS. BROWN: 9 Q. What information did you use or 10 rely on from Dr. Crowley's report? 11 A. I can pull it up, but I believe 12 you have a list of all of the things that 13 were in there and looking at them, what they 14 were -- what was known about all of the 15 different components. 16 Q. Did you do anything to verify 17 the accuracy of Dr. Crowley's list of 18 components of talcum powder? 19 MS. O'DELL: Object to the 20 form. 21 A. Such as? What are you 22 suggesting? 23 BY MS. BROWN: 24 Q. Did you do anything, as an</p>

<p style="text-align: right;">Page 174</p> <p>1 independent expert witness, to check the list 2 that you received from Dr. Crowley? 3 MS. O'DELL: Object to the 4 form. 5 A. I don't know how I could have 6 done that because I didn't have the list of 7 what was in there myself. And I don't -- 8 so -- and I don't do the testing myself. I 9 relied on the expert, that he tested and 10 found those things in the report, in the 11 fragrance -- or in the product, sorry. 12 BY MS. BROWN: 13 Q. And is it your opinion that 14 some of the elements on Dr. Crowley's list 15 increase a woman's risk of ovarian cancer? 16 A. No. It's my opinion that some 17 of the ingredients on the list are 18 inflammatory. And I know that inflammation 19 plays a role in the development and 20 progression of ovarian cancer. 21 Q. Are you relying on any 22 scientific literature to support your 23 opinion, that some of the chemicals in 24 Johnson & Johnson's baby powder cause an</p>	<p style="text-align: right;">Page 176</p> <p>1 Dr. Crowley's list, are you relying on the 2 presence of those in the baby powder product 3 to support your opinion that it increases a 4 woman's risk of ovarian cancer? 5 A. I believe it's one of the 6 things that could. 7 Q. So what I want to know is what 8 ingredients do you believe could increase a 9 woman's risk of ovarian cancer, and then, 10 two, what scientific support you have for 11 that? 12 MS. O'DELL: Excuse me. Object 13 to the form. 14 A. I never said that those 15 ingredients themselves could increase the 16 risk of ovarian cancer. What I'm saying is 17 that some of the ingredients can be 18 inflammatory. Inflammation is associated 19 with development and progression of ovarian 20 cancer. Those fragrances on their own -- 21 excuse me, in conjunction with all of the 22 other components of talcum powder are 23 concerning to me. 24</p>
<p style="text-align: right;">Page 175</p> <p>1 inflammatory reaction that can lead to 2 cancer? 3 MS. O'DELL: Object to the 4 form. 5 A. I'm relying on the literature 6 that says ovarian cancer is related to 7 inflammation, both development and 8 progression, and knowing that those are 9 inflammatory, I have a concern about them. 10 BY MS. BROWN: 11 Q. Do you have any scientific 12 support that the chemicals in Johnson & 13 Johnson's baby powder are inflammatory in 14 human beings? 15 MS. O'DELL: Object to the 16 form. 17 A. I'd have to look at the report 18 of how they were all tested. I know that -- 19 I'm assuming most of it was in animals, not 20 in humans. So I'd have to look at the 21 report. 22 BY MS. BROWN: 23 Q. Are you relying on the presence 24 of certain of the chemicals listed on</p>	<p style="text-align: right;">Page 177</p> <p>1 BY MS. BROWN: 2 Q. And what support do you have in 3 the scientific literature that would lead you 4 to be concerned about the inflammatory 5 process you just described? 6 A. Oh, in ovarian cancer? 7 Q. No, with these chemicals, what 8 support do you have -- the list of 9 fragrances, what support do you have that 10 those elements cause inflammation that could 11 lead to cancer in humans? 12 MS. O'DELL: Object to the 13 form. 14 A. I never said I had that 15 evidence. What I'm saying, is that the 16 expert report says that many of them are 17 inflammatory and that I know that 18 inflammation has -- plays a large role in 19 ovarian cancer and there's more and more 20 papers suggesting that, and that this is one 21 of the components of talcum powder product 22 that I'm concerned about. 23 BY MS. BROWN: 24 Q. And do you have any evidence</p>

<p style="text-align: right;">Page 178</p> <p>1 that those elements have been tested in human 2 beings, have caused inflammation in human 3 beings? 4 MS. O'DELL: Object to the 5 form. 6 A. I would have to review his 7 report again. My -- so I can't answer that 8 question offhand. I would suspect that most 9 of these were tested in animals, not in human 10 beings. 11 BY MS. BROWN: 12 Q. For purposes of your opinion, 13 Dr. Wolf, are you relying on a finding in 14 animals of inflammation, to support your 15 opinion that talcum powder causes ovarian 16 cancer? 17 MS. O'DELL: Object to the 18 form. 19 A. No. What I'm relying on is -- 20 let me clarify it. What I'm relying on is 21 that these cause inflammation, even if it's 22 in animals. They are part of the talcum 23 powder product and concerning to me, in 24 addition with all of the other parts of</p>	<p style="text-align: right;">Page 180</p> <p>1 of ovarian cancer. 2 BY MS. BROWN: 3 Q. Other than your understanding 4 that some of the fragrances have been 5 inflammatory in animals, is there anything 6 else you're relying on to support your 7 opinion, that the presence of the fragrances 8 in Johnson & Johnson's baby powder increase a 9 woman's risk of ovarian cancer? 10 MS. O'DELL: Object to the 11 form. 12 A. I'm just reading the question 13 again. The fact that I know that 14 inflammation in a proinflammatory state is 15 related to the development of ovarian cancer 16 and the progression of ovarian cancer, I'm 17 concerned about anything in talcum powder 18 product that would increase -- potentially 19 increase inflammation. 20 BY MS. BROWN: 21 Q. How -- have you made a 22 determination of how much of the fragrances 23 are present in the talcum powder product? 24 A. I do not know that.</p>
<p style="text-align: right;">Page 179</p> <p>1 talcum powder that are concerning, asbestos, 2 fibrous talc, platy talc, heavy metals. 3 BY MS. BROWN: 4 Q. What support do you have that 5 the inflammation you're referring to leads to 6 cancer? 7 MS. O'DELL: Object to the 8 form. 9 BY MS. BROWN: 10 Q. What I'm after is, where are 11 the scientific studies that say this 12 inflammation in an animal caused cancer, of 13 the list of fragrances Dr. Crowley opines on? 14 MS. O'DELL: Object to the 15 form, asked and answered. 16 A. Yeah, I believe I've already 17 answered that question. I don't have a study 18 that I can point to that says, using this 19 agent it produced cancer, in this agent that 20 it produced cancer. But if they're 21 inflammatory, that's concerning enough to me, 22 especially with ovarian cancer, that they 23 could play a role in the toxicity of talcum 24 powder on the perineum to increase the risk</p>	<p style="text-align: right;">Page 181</p> <p>1 Q. Isn't it important for you in 2 forming your opinion, to know the amount of 3 exposure that a woman would get from 4 fragrances in talcum powder? 5 MS. O'DELL: Object to form. 6 A. I'm going to go back to what I 7 said about asbestos and the amount. First of 8 all, I don't know how you would quantify the 9 amount when I don't know what a dose is, how 10 often someone uses it, how much they use, how 11 long they used talcum powder product. And 12 then in addition, each individual woman, her 13 makeup, her response is going to be 14 different. 15 And so given that there isn't 16 testing of dosing to see if each of these 17 individual things increases the risk of 18 ovarian cancer and there's some concern that 19 they increase inflammation, my concern is 20 that any amount is worrisome. 21 BY MS. BROWN: 22 Q. And the basis for your opinion 23 that it's worrisome is your understanding 24 that in some dose, these chemicals can cause</p>

<p style="text-align: right;">Page 182</p> <p>1 inflammation in animal models. True?</p> <p>2 MS. O'DELL: Object to the</p> <p>3 form.</p> <p>4 A. And more than that, that</p> <p>5 inflammation can cause -- be one of the</p> <p>6 causes of ovarian cancer and this is</p> <p>7 something that's in a product that has</p> <p>8 multiple things that have been associated</p> <p>9 with increased inflammation and/or</p> <p>10 carcinogenicity of the ovaries.</p> <p>11 BY MS. BROWN:</p> <p>12 Q. And tell me, Doctor, I</p> <p>13 understand you believe that there is asbestos</p> <p>14 in baby powder, right, we talked about that?</p> <p>15 A. I have seen data to support</p> <p>16 that there is asbestos in some baby powder</p> <p>17 product.</p> <p>18 Q. And you have not made a</p> <p>19 determination as to how much may be in baby</p> <p>20 powder, correct? How much asbestos?</p> <p>21 MS. O'DELL: Objection to the</p> <p>22 form --</p> <p>23 A. My concern is that I don't -- I</p> <p>24 don't know specifically how much, and I don't</p>	<p style="text-align: right;">Page 184</p> <p>1 form.</p> <p>2 A. I believe I've answered this</p> <p>3 question multiple times, that these fragrance</p> <p>4 ingredients, some of them cause inflammation,</p> <p>5 at least in animals, that ovarian cancer, one</p> <p>6 of the causes, is a proinflammatory state and</p> <p>7 inflammation can also enhance the progression</p> <p>8 of ovarian cancer. And so if there's a</p> <p>9 product that I know contains -- one of the</p> <p>10 components can cause inflammation, and I</p> <p>11 don't know what level is safe, I don't know</p> <p>12 that I can answer that there's a safe level.</p> <p>13 BY MS. BROWN:</p> <p>14 Q. Are you familiar with talc</p> <p>15 pleurodesis?</p> <p>16 A. Yes.</p> <p>17 Q. You understand that that is a</p> <p>18 procedure in which talc is placed inside a</p> <p>19 person's lung for its inflammatory response,</p> <p>20 correct?</p> <p>21 A. So it's not placed in the lung.</p> <p>22 It's placed in the pleura.</p> <p>23 Q. Pleura. Right?</p> <p>24 A. Yes.</p>
<p style="text-align: right;">Page 183</p> <p>1 really have a threshold of how much is safe.</p> <p>2 I'm concerned with any.</p> <p>3 BY MS. BROWN:</p> <p>4 Q. And you've not made a</p> <p>5 determination as to how much fragrance is in</p> <p>6 any individual bottle of baby powder,</p> <p>7 correct?</p> <p>8 A. Well, an individual fragrance,</p> <p>9 no, I don't know.</p> <p>10 Q. Is it your testimony that any</p> <p>11 amount, including trace levels of fragrances,</p> <p>12 can cause inflammation that lead to cancer?</p> <p>13 MS. O'DELL: Objection to the</p> <p>14 form.</p> <p>15 A. I don't know how much of the</p> <p>16 fragrances are required to cause</p> <p>17 inflammation. Given that I don't know how</p> <p>18 much is safe, I'm concerned about any amount.</p> <p>19 BY MS. BROWN:</p> <p>20 Q. But do you have scientific</p> <p>21 support for the fact that any amount of</p> <p>22 fragrance can cause inflammation that leads</p> <p>23 to cancer?</p> <p>24 MS. O'DELL: Object to the</p>	<p style="text-align: right;">Page 185</p> <p>1 Q. And the purpose of placing it</p> <p>2 in the pleura is to initiate an inflammatory</p> <p>3 response, correct?</p> <p>4 A. That's correct.</p> <p>5 Q. And that's, in fact, one of the</p> <p>6 reasons that talc is what's used in</p> <p>7 pleurodesis because it produces in large</p> <p>8 quantities, an inflammatory response, right?</p> <p>9 A. So that is one of the reasons</p> <p>10 that talc has been used. It's not used very</p> <p>11 much anymore because a lot of ovarian cancer</p> <p>12 patients get malignant pleural effusions.</p> <p>13 And so I've had a lot of personal experience</p> <p>14 in -- I'm not doing the pleurodesis myself,</p> <p>15 but referring, and most places for malignant</p> <p>16 pleural effusions these days, they don't use</p> <p>17 any kind of chemical pleurodesis. They put</p> <p>18 in a drain, that the patient can drain as</p> <p>19 needed when they're short of breath.</p> <p>20 Q. You, Doctor, have never</p> <p>21 performed talc pleurodesis; is that right?</p> <p>22 A. I have referred patients to my</p> <p>23 colleagues to do it, but I haven't personally</p> <p>24 done it.</p>

<p style="text-align: right;">Page 186</p> <p>1 Q. Part of your care as a 2 gynecological oncologist includes from time 3 to time referring patients for talc 4 pleurodesis; is that right? 5 MS. O'DELL: Object to the 6 form. 7 A. Referring patients for 8 management of malignant pleural effusion. 9 And I would say that in the last 15, at 10 least, years, none of my patients have had 11 talc pleurodesis or any kind of chemical 12 pleurodesis. They've all had drains placed. 13 BY MS. BROWN: 14 Q. And you're not a pulmonologist, 15 right, Doctor? 16 A. I'm not a pulmonologist. 17 Q. You are not the primary person 18 that patients go to when they're suffering 19 from diseases of the pleura like 20 mesothelioma, correct? 21 MS. O'DELL: Object to the 22 form. 23 A. No. 24</p>	<p style="text-align: right;">Page 188</p> <p>1 that IARC noted is that in -- certainly, talc 2 pleurodesis causes an inflammatory response, 3 right? 4 A. Yes. 5 Q. And that those patients have 6 been followed for decades, to see if that 7 inflammatory response leads to cancer, right? 8 A. Some of those patients. 9 Q. And by and large -- have you 10 reviewed the epidemiology as it relates to 11 patients who have undergone talc pleurodesis? 12 A. Yes. 13 Q. And you would agree with IARC, 14 that the conclusions are that talc 15 pleurodesis does not cause cancer. True? 16 MS. O'DELL: Object to the 17 form. 18 A. So my interpretation of the 19 literature on that, is that it's a -- most of 20 the time it's a one-time application of talc. 21 Many of those patients have a terminal 22 disease and don't live long enough to know 23 what happens down the road. Some of them 24 have been followed a long time, but the talc</p>
<p style="text-align: right;">Page 187</p> <p>1 BY MS. BROWN: 2 Q. And so whether or not talc 3 pleurodesis is and remains the standard of 4 care at a number of institutions treating 5 patients with mesothelioma is not something 6 that you necessarily know; is that fair? 7 MS. O'DELL: Object to the 8 form. 9 A. I would say it's my 10 understanding that in general, talc 11 pleurodesis is not as common as it used to 12 be. 13 BY MS. BROWN: 14 Q. And you would agree with me, 15 Doctor, that talc pleurodesis is something 16 that IARC considered in reviewing the 17 literature on talc, right? 18 MS. O'DELL: Object to the 19 form. Which monograph are you 20 referring to? 21 BY MS. BROWN: 22 Q. On talc. 23 A. Oh, the 2010? Yes. 24 Q. Right. And one of the things</p>	<p style="text-align: right;">Page 189</p> <p>1 pleurodesis, it happens once, maybe twice, 2 but it's not a repeated application of talc. 3 BY MS. BROWN: 4 Q. Have you attempted to quantify 5 the difference between how much talc is 6 applied to the mesothelial cells of the 7 pleura versus how much talc could enter a 8 woman's body from perineal use? 9 MS. O'DELL: Object to the 10 form. 11 A. I haven't done that. I'm not 12 sure how you could do that, unless you 13 measured how much a woman used over time. 14 BY MS. BROWN: 15 Q. You would agree with me that in 16 the pleurodesis context, talc causes an 17 inflammatory response that does not cause 18 cancer, right? 19 MS. O'DELL: Object to the 20 form. 21 A. I would agree that it causes an 22 acute inflammatory response, that's why it's 23 used. And I would say that many of the -- 24 much of -- it's given once, and much of the</p>

<p style="text-align: right;">Page 190</p> <p>1 time we don't know -- the patients don't live 2 long enough to know if there's any effect. 3 In the patients that have lived long and have 4 been followed, there hasn't seen an increase 5 risk of cancer, but again, it's a one-time 6 application. 7 BY MS. BROWN: 8 Q. And in terms of how much -- of 9 the one-time application, how much talc gets 10 into a person's body, that's not something 11 you know, right? 12 A. No, because I think that if a 13 woman's using it, I don't know how much she's 14 using over time. And although maybe one time 15 using it in the perineum is less than the 16 amount used for talc pleurodesis, if somebody 17 uses talcum powder product in their peroneum 18 daily, monthly, weekly for years, I don't 19 know how that relates to what's used in a 20 one-time talc pleurodesis. 21 Q. Right. You don't have any 22 information or any basis to compare the 23 amount of talc that's injected into a person 24 who's getting talc pleurodesis with the</p>	<p style="text-align: right;">Page 192</p> <p>1 A. I believe that talc, as well as 2 many inert materials can migrate to the 3 ovaries. 4 Q. What other inert materials can 5 migrate to the ovaries? 6 A. Dead sperm, carbon particles, 7 radioactive material that's been studied. 8 Q. Are you aware -- 9 A. Menstrual blood that flows 10 retrograde. 11 Q. What about particles from the 12 exterior of the vagina? Are you aware of any 13 evidence that those particles can migrate to 14 the ovaries? 15 A. So -- I want to say it's in one 16 of the animal studies. There is definitely 17 inflammation of the genital tract with 18 perineal application of rats from talc. It's 19 not necessarily a migration study. 20 Q. So my question is, do you have 21 any scientific support that particles on the 22 exterior of the vagina can migrate up the 23 genital tract to the ovaries? 24 MS. O'DELL: Object to the</p>
<p style="text-align: right;">Page 191</p> <p>1 amount of talc that may or may not migrate up 2 the genital track to the ovaries. True? 3 MS. O'DELL: Object to the 4 form. 5 A. What I'm saying is that I can't 6 compare the two. It's certainly not bottles 7 of talcum powder that -- multiple bottles 8 that are used in pleurodesis. 9 BY MS. BROWN: 10 Q. Do you know how many grams of 11 talcum powder are used in talc pleurodesis? 12 A. I don't remember offhand. 13 Q. Have you attempted to quantify 14 how much talcum powder could ascend the 15 genital tract through perineal dusting? 16 MS. O'DELL: Object to the 17 form. 18 A. Are you asking me have I 19 personally done that? 20 BY MS. BROWN: 21 Q. Well, in connection with your 22 opinion -- I assume your opinions in this 23 case are based on a belief that talc can 24 migrate to the ovaries. True?</p>	<p style="text-align: right;">Page 193</p> <p>1 form. 2 A. So I don't know how to say 3 this. Because of the position of the 4 perineum, because of the opening of the 5 vagina, because of the opening of the cervix, 6 unless a woman has cervical stenosis, and the 7 opening of the fallopian tubes, unless she 8 has her tubes tied or removed, it's an open 9 tract from the outside up through the vagina 10 and to the ovaries in humans. Some animals 11 not, but in humans. And it's generally 12 accepted in the gynecologic community and by 13 the FDA that migration occurs. 14 BY MS. BROWN: 15 Q. And I understand in connection 16 with your report on page 10, you cite to a 17 number of studies that support your opinion; 18 is that right? 19 A. That's correct. 20 Q. And none of these studies 21 involve studying whether talcum powder 22 applied outside of the vagina can travel up 23 to the ovaries; is that right? 24 A. That's correct, in these</p>

<p style="text-align: right;">Page 194</p> <p>1 studies.</p> <p>2 Q. And in fact, none of these</p> <p>3 studies investigate whether any particle</p> <p>4 applied outside of the vagina can travel up</p> <p>5 to the ovaries. True?</p> <p>6 A. Not -- no, that's correct.</p> <p>7 Q. And, in fact, there is no</p> <p>8 evidence in the scientific community at all,</p> <p>9 that would show a talcum powder particle</p> <p>10 outside of the vagina traveling up to the</p> <p>11 ovaries; that investigation has not been</p> <p>12 done, correct?</p> <p>13 MS. O'DELL: Objection to the</p> <p>14 form.</p> <p>15 A. So the studies that I have</p> <p>16 quoted for -- referenced for migration are</p> <p>17 not talcum powder. There are other inert</p> <p>18 substances. The studies on talcum powder</p> <p>19 were not on the perineum in the vagina, but</p> <p>20 there's -- there's no reason to think or</p> <p>21 believe, and from my perspective and from the</p> <p>22 perspective of the gynecologic community,</p> <p>23 that any inert substance couldn't travel from</p> <p>24 the outside up into the ovaries. In fact,</p>	<p style="text-align: right;">Page 196</p> <p>1 MS. O'DELL: Object to the</p> <p>2 form.</p> <p>3 A. So there was a concern for</p> <p>4 that. I think we talked about that earlier.</p> <p>5 BY MS. BROWN:</p> <p>6 Q. I'm talking about the epi that</p> <p>7 looked at women who had used, with their</p> <p>8 partners, talc-dusted condoms and you know</p> <p>9 that epi shows no increased risk of ovarian</p> <p>10 cancer, right?</p> <p>11 MS. O'DELL: Object to the</p> <p>12 form.</p> <p>13 A. So just because those</p> <p>14 studies -- okay. I'm going to say okay, yes.</p> <p>15 BY MS. BROWN:</p> <p>16 Q. How did that body of</p> <p>17 epidemiology, how did you take that into</p> <p>18 account in forming your opinion in this case?</p> <p>19 MS. O'DELL: Object to the</p> <p>20 form.</p> <p>21 A. So I mean, I'm going to say</p> <p>22 that it's a piece of the information, but</p> <p>23 when I look at all of the information as a</p> <p>24 whole, as in epidemiology as far as talcum</p>
<p style="text-align: right;">Page 195</p> <p>1 it's been known for decades, that if a woman</p> <p>2 has that system blocked in some way, if her</p> <p>3 tubes are tied or her tubes are removed or</p> <p>4 she's had a hysterectomy, that reduces her</p> <p>5 risk of ovarian cancer. And before there was</p> <p>6 any hint of what might be coming from the</p> <p>7 outside, the hypothesis in the medical</p> <p>8 community, at least in the gynecologic</p> <p>9 community, is that it's an external substance</p> <p>10 that gets to the ovaries.</p> <p>11 And the fact that that could</p> <p>12 happen is based on the fact that all of these</p> <p>13 other things that are known to travel back</p> <p>14 from the outside. And if something's on the</p> <p>15 outside, it can be pushed up into the inside</p> <p>16 through the vagina by intercourse, by going</p> <p>17 to the bathroom, by wiping, by having --</p> <p>18 riding a bike, by exercising, by walking.</p> <p>19 And I think that's -- that's where I'm going</p> <p>20 to stop.</p> <p>21 BY MS. BROWN:</p> <p>22 Q. And you know that none of the</p> <p>23 talc-dusted condom studies show an increased</p> <p>24 risk of ovarian cancer, right?</p>	<p style="text-align: right;">Page 197</p> <p>1 powder product exposure, the weight of the</p> <p>2 evidence suggests that there is an increased</p> <p>3 risk of ovarian cancer with genital talcum</p> <p>4 powder application.</p> <p>5 BY MS. BROWN:</p> <p>6 Q. Did you -- in considering the</p> <p>7 epidemiology that looked at women whose</p> <p>8 partners had used talc-dusted condoms, did</p> <p>9 you weight that epidemiology differently than</p> <p>10 some of the other studies you considered?</p> <p>11 MS. O'DELL: Object to the</p> <p>12 form.</p> <p>13 A. So I'm going to say that the</p> <p>14 studies I gave the most weight to in the epi</p> <p>15 review, were those that were larger, newer</p> <p>16 meta-analysis or a prospective of the cohort</p> <p>17 studies.</p> <p>18 BY MS. BROWN:</p> <p>19 Q. I think one of the ones you</p> <p>20 pointed us to was Cramer 2016, right?</p> <p>21 A. Yes.</p> <p>22 Q. And you know that -- and how</p> <p>23 did you consider Cramer's findings as it</p> <p>24 related to women who had had tubal ligation?</p>

<p style="text-align: right;">Page 198</p> <p>1 A. So I believe he didn't see a 2 difference. I have to look at the paper 3 again. Some of them they saw a difference if 4 the tubes were tied and some of them they 5 didn't and I can't remember. 6 MS. O'DELL: If you need to 7 take a look at the paper. 8 BY MS. BROWN: 9 Q. Let's take a look at the paper 10 and refresh you on what Dr. Cramer found, and 11 I'll ask you some questions about that. 12 A. 2016. This one. 13 Q. That's going to be this one. 14 Doctor, I want to direct you to page 339, and 15 we'll mark it as an exhibit. This will be 16 Wolf 11, Dr. Cramer's 2016 article. And I 17 think you stated in your report that this was 18 an article that you found to be of 19 particularly high quality; is that right? 20 A. Yes. 21 (Deposition Exhibit 11 marked 22 for identification.) 23 BY MS. BROWN: 24 Q. And what -- what's your</p>	<p style="text-align: right;">Page 200</p> <p>1 A. If I know it. I don't always 2 know. 3 Q. The date of the publication 4 with a preference for more recent studies? 5 A. Yes. 6 Q. Okay. And anything else that 7 went into your determination that 8 Dr. Cramer's 2016 study was high quality? 9 MS. O'DELL: Other than what 10 she said previously. 11 A. And also all of the different 12 potential cofactors that are evaluated. 13 BY MS. BROWN: 14 Q. By "cofactors that are 15 evaluated," do you mean that the author 16 controlled for confounders? 17 A. Or at least looked at other 18 things that might have an impact. 19 Q. And one of the things you know 20 that Dr. Cramer found on page 339, is that 21 there was a statistically significant 22 increased risk in women who had had their 23 tubes tied who had used talcum powder, right? 24 A. (Nods head.)</p>
<p style="text-align: right;">Page 199</p> <p>1 definition of a "high-quality case-control 2 study"? 3 A. So I looked at the size of the 4 study, the -- I was trying to focus on the 5 newer studies just because this would be more 6 related to talcum powder products in the last 7 20 or 30 years. Dr. Cramer has expertise in 8 this area. This is something that he studied 9 before. And he also looked at multiple -- 10 multiple -- how often the talc was used and 11 multiple factors that might influence whether 12 there was an impact. 13 Q. So as I understand you, 14 Dr. Wolf, the factors you considered in 15 deeming that a study was, quote/unquote, high 16 quality, include looking at the number of 17 people studied; is that right? 18 A. Uh-huh. 19 Q. The author of the study, 20 correct? 21 A. Uh-huh. 22 Q. The -- 23 A. The expertise of the author. 24 Q. The expertise of the author.</p>	<p style="text-align: right;">Page 201</p> <p>1 Q. Do you see that? 2 A. Yes, I see that. 3 Q. Okay. And that's the opposite 4 of what you would expect, based on your 5 opinion and theory. True? 6 MS. O'DELL: Object to the 7 form. 8 A. If we knew when they had their 9 tubes tied. Did they have their tubes tied 10 before they started using talcum powder, or 11 after, or when? 12 BY MS. BROWN: 13 Q. Well, in any event, what you 14 would expect, Doctor, is that the finding in 15 a woman who had her tubes tied should show 16 less of a relative risk than in those who did 17 not have their tubes tied, based on your 18 theory of migration. True? 19 MS. O'DELL: Object to the 20 form. 21 A. Only if those tubes were tied 22 before she was ever exposed to talcum powder 23 product. 24</p>

<p style="text-align: right;">Page 202</p> <p>1 BY MS. BROWN: 2 Q. And you know Dr. Cramer did an 3 analysis of that as well, right? 4 A. I don't know that he was able 5 to. 6 Q. What he said, as you recall, is 7 that the number of women who only used talcum 8 powder after their tubes were tied were too 9 small to even analyze, right? 10 A. That's the answer -- 11 (Simultaneous discussion 12 interrupted by reporter.) 13 MS. O'DELL: Give me a chance. 14 If you need to look at the paper, 15 don't -- don't assume based on what 16 the question is. 17 (Witness reviews document.) 18 BY MS. BROWN: 19 Q. Doctor, you would agree that, 20 based on your theory of migration, you would 21 expect to see a significantly decreased risk 22 in women who had a tubal ligation. True? 23 MS. O'DELL: Doctor, feel free 24 to continue to refresh yourself before</p>	<p style="text-align: right;">Page 204</p> <p>1 MS. O'DELL: Object to the 2 form. 3 A. I'm not sure. I would -- if 4 the only way that they might get cancer from 5 an ovary is from migration, yes. Unless 6 their tubes weren't adequately tied. 7 However, if the talc got to their ovaries 8 from another source through inhalation, then 9 there may still be some confounding and some 10 increased risk. 11 BY MS. BROWN: 12 Q. Is it your opinion, Doctor, 13 that talc can get to a woman's ovaries 14 through inhalation? 15 A. Yes. 16 Q. Have you considered the 17 findings of the epidemiology as it relates to 18 body-only powder use? 19 MS. O'DELL: Object to the 20 form. 21 A. Yes. 22 BY MS. BROWN: 23 Q. And what have those studies, by 24 and large, shown?</p>
<p style="text-align: right;">Page 203</p> <p>1 you answer any questions. 2 A. I just want to read the -- I 3 want to look at one more thing and then I'll 4 answer your question. 5 (Witness reviews document.) 6 A. I can't find it in the written 7 part of the article. 8 BY MS. BROWN: 9 Q. Doctor, I'm going to withdraw 10 the question because I really do want to move 11 on. I understand you want to spend some time 12 with the study and we can do that on a break. 13 MS. O'DELL: She's about to 14 answer your question. 15 A. I mean, it basically says that 16 he didn't have enough women to be able to 17 explain why that was the case. 18 BY MS. BROWN: 19 Q. Okay. So as a concept, though, 20 Doctor, you would expect, based on your 21 theory, that the epidemiology would show a 22 decreased risk of ovarian cancer with powder 23 use in women who have their tubes tied before 24 they use the powder use, correct?</p>	<p style="text-align: right;">Page 205</p> <p>1 A. That it's -- that there's no 2 carcinogenicity. 3 Q. The epidemiology shows, by and 4 large, no increased risk of ovarian cancer 5 with body-only use of talcum powder, correct? 6 A. Yes. 7 MS. O'DELL: Object to the 8 form. 9 BY MS. BROWN: 10 Q. How did you consider that 11 epidemiology in forming your opinion that a 12 woman might be exposed to talcum powder 13 through inhalation? 14 MS. O'DELL: Object to the 15 form. 16 A. I'm not sure how those two 17 things relate. 18 BY MS. BROWN: 19 Q. If a woman uses talcum powder 20 on her body, how is she exposed to the talcum 21 powder? 22 A. On her skin. I don't know what 23 you're asking me. 24 Q. Do you think there's</p>

<p style="text-align: right;">Page 206</p> <p>1 potential -- more of a potential for a woman 2 to be exposed from inhaling talcum powder 3 when she puts it in her underwear than if 4 she's using it on her chest? 5 A. I don't know. 6 Q. Have you evaluated how much 7 talcum powder a woman using body-use-only 8 would be exposed to? 9 MS. O'DELL: Object to the 10 form. 11 A. I know that body-use-only does 12 not increase carcinogenicity -- 13 carcinogenesis, I'm sorry. But I'm not 14 ruling out that someone who routinely daily 15 uses it on the perineum couldn't also have 16 inhalation exposure. 17 BY MS. BROWN: 18 Q. And what support do you have in 19 the scientific literature for that opinion? 20 A. I would say the finding of talc 21 in lymph nodes is one potential -- pelvic 22 lymph nodes near the ovary, although the 23 pelvic lymph nodes could also come from the 24 ovary in the other direction. I mean,</p>	<p style="text-align: right;">Page 208</p> <p>1 case report, do you have any other support in 2 the scientific literature that a woman using 3 talcum powder perineally would be exposed via 4 inhalation? 5 A. Hang on one second. 6 (Witness reviews document.) 7 A. I'm looking at my report and my 8 references, but they don't specifically talk 9 about perineal application and inhalation. 10 All I'm saying, to answer your first 11 question, to go back a few, is that -- your 12 question was, if somebody had their tubes 13 tied before they ever used talcum powder, 14 would that negate any increased risk of 15 ovarian cancer? And my answer was, if the 16 tubes were tied, it couldn't migrate up, but 17 there's still the possibility that she could 18 have it from inhalation. That's all I'm 19 saying. 20 BY MS. BROWN: 21 Q. And I want to know what support 22 you rely on in forming the opinion that a 23 woman could inhale talcum powder that could 24 reach her ovaries and cause ovarian cancer?</p>
<p style="text-align: right;">Page 207</p> <p>1 migration could lead to talc in pelvic lymph 2 nodes. 3 Q. What you're referring to is a 4 case report from 2007 that -- by Dr. Cramer? 5 A. Yes. 6 Q. Okay. Did you know that 7 Dr. Cramer was an expert witness for the 8 plaintiffs? 9 A. I did. 10 Q. Did you consider Dr. Cramer's 11 work as an expert witness in evaluating and 12 reaching the determination that his 2016 13 paper was high quality? 14 A. No. 15 Q. The fact that Dr. Kramer is 16 being paid by plaintiffs' lawyers in talcum 17 powder litigation did not affect your 18 evaluation of his 2016 article; is that 19 right? 20 A. No. 21 MS. O'DELL: Object to the 22 form. 23 BY MS. BROWN: 24 Q. Other than Dr. Cramer's 2007</p>	<p style="text-align: right;">Page 209</p> <p>1 A. I'm going to talk -- say that 2 talcum powder has been found not only in the 3 lymph nodes but in the ovaries of women, both 4 who report using and not using perineal 5 talcum powder. 6 Q. So you're talking about the 7 Heller study, right? 8 A. Yes. 9 Q. Okay. How does the fact that 10 talcum powder has been potentially found in 11 the ovaries of women who did not report using 12 talcum powder, support your view that a woman 13 could inhale talcum powder from perineal use 14 and have that powder reach her ovaries and 15 cause cancer? 16 A. To me it just supports the idea 17 that talcum powder can get to the ovaries 18 through inhalation. 19 Q. And did you read the findings 20 of that study as it related to whether or not 21 the talcum powder that was allegedly found in 22 the ovary induced an inflammatory response? 23 MS. O'DELL: Object to the 24 form.</p>

<p style="text-align: right;">Page 210</p> <p>1 A. So sometimes there was an 2 inflammatory response and sometimes not, is 3 my recollection. 4 BY MS. BROWN: 5 Q. Okay. Let's take a look at the 6 paper. 7 A. Okay. 8 MS. O'DELL: We've been going 9 about an hour and a half. It's 12:45. 10 MS. BROWN: If we could finish 11 Heller, then we can take a break. 12 MS. O'DELL: What do you 13 anticipate on Heller? 14 MS. BROWN: Ten minutes. 15 MS. O'DELL: Okay. Is ten 16 minutes okay with you, Doctor? 17 THE WITNESS: Uh-huh. 18 BY MS. BROWN: 19 Q. Thanks, Doctor. 20 A. So it doesn't look like they 21 looked at inflammation. 22 Q. Hold on one second. And one of 23 the things you know that this -- 24 MS. O'DELL: Are you going to</p>	<p style="text-align: right;">Page 212</p> <p>1 response or not. But what I'm going to tell 2 you, I'm reading their entire results. 3 BY MS. BROWN: 4 Q. I promise you I will point it 5 out to you. I don't want to waste time. 6 This is going to be the first thing we do 7 when we come back. 8 Is it your testimony, based on 9 talc causing an inflammatory response, that 10 leads to cancer? 11 A. Yes. 12 Q. And so how -- when talc -- a 13 talc particle is found, would you expect it 14 to show an inflammatory response? 15 A. What I'm trying to say is, that 16 I don't know the timing of the talc being 17 placed and looking at the specimen, was the 18 entire specimen looked at. When you look at 19 pathology slides, you look at a little piece 20 of the tissue. You don't generally look at 21 the entire tissue. And so it could be that 22 the area that was looked at did not show 23 inflammation and in an area that wasn't in 24 the slide did show inflammation.</p>
<p style="text-align: right;">Page 211</p> <p>1 mark an exhibit? 2 MS. BROWN: Uh-huh. 3 BY MS. BROWN: 4 Q. I'm trying to find it. We'll 5 take a break and I can find it for you, 6 Doctor. But you know that they reported that 7 the talc that was found did not show evidence 8 of a foreign body reaction. Do you remember 9 that? 10 MS. O'DELL: Object to the 11 form. 12 A. That's not anywhere in the 13 results. 14 BY MS. BROWN: 15 Q. I'll show it to you. We'll 16 take a break and I'll show it to you. Would 17 that be important for you to consider? 18 MS. O'DELL: Object to the 19 form. 20 A. I'm going to say not 21 necessarily, because it depends on did they 22 look at the entire ovary, depends on the 23 timing of when they looked at it, whether 24 there's a response -- an inflammatory</p>	<p style="text-align: right;">Page 213</p> <p>1 Q. In your opinion, can talc be in 2 the ovaries and not cause inflammation? 3 A. No, that's not what I'm saying. 4 I'm saying you might not see it if you don't 5 look at the entire specimen, the entire 6 ovary. 7 MS. BROWN: Let's take a break 8 and have lunch and we'll come back and 9 finish Heller, which I will mark. 10 MS. O'DELL: Okay. 11 THE VIDEOGRAPHER: Going off 12 the record. The time is 12:44 p.m. 13 (Recess taken from 12:44 p.m. 14 to 1:41 p.m.) 15 THE VIDEOGRAPHER: Back on the 16 record. The time is 1:41 p.m. 17 (Deposition Exhibit 12 marked 18 for identification.) 19 BY MS. BROWN: 20 Q. Dr. Wolf, I'm handing you what 21 I've marked as Exhibit 12 to your deposition, 22 and which is the article by Heller from 1996 23 that we were discussing before lunch. 24 A. Yes.</p>

<p style="text-align: right;">Page 214</p> <p>1 Q. And this is --</p> <p>2 MS. O'DELL: Excuse me, do you</p> <p>3 have a copy for me?</p> <p>4 MS. BROWN: Sorry.</p> <p>5 BY MS. BROWN:</p> <p>6 Q. This is one of the articles</p> <p>7 that you pointed me to in support of your</p> <p>8 opinion that talc particles can migrate to</p> <p>9 the ovaries, correct?</p> <p>10 A. Yes.</p> <p>11 Q. Okay. And you would agree with</p> <p>12 me, though, that this study looked at whether</p> <p>13 or not the talc particles that they allegedly</p> <p>14 found were causing an inflammatory response,</p> <p>15 right?</p> <p>16 MS. O'DELL: Object to the</p> <p>17 form.</p> <p>18 A. Well, in -- in reading that</p> <p>19 full paragraph, they looked at one of the</p> <p>20 specimens for an inflammatory response, out</p> <p>21 of 24.</p> <p>22 BY MS. BROWN:</p> <p>23 Q. And the conclusion was that</p> <p>24 there was no evidence of a response to talc,</p>	<p style="text-align: right;">Page 216</p> <p>1 keep moving.</p> <p>2 (Witness reviews document.)</p> <p>3 A. Okay. Sorry, this one does not</p> <p>4 talk -- they don't mention any -- whether</p> <p>5 they even looked for inflammation.</p> <p>6 MS. O'DELL: Dr. Wolf, for the</p> <p>7 record, you were referring to</p> <p>8 Henderson '71?</p> <p>9 THE WITNESS: Yes.</p> <p>10 BY MS. BROWN:</p> <p>11 Q. So to be clear for the record,</p> <p>12 then, Dr. Wolf, in Heller '96 the case that</p> <p>13 they reported on found no evidence of a</p> <p>14 response to talc, correct?</p> <p>15 MS. O'DELL: Object to the</p> <p>16 form.</p> <p>17 A. They looked at one out of 24</p> <p>18 cases and in that one case, they did not see</p> <p>19 a response to talc.</p> <p>20 BY MS. BROWN:</p> <p>21 Q. And you have no evidence that</p> <p>22 there was anything different in the other 23</p> <p>23 cases. True?</p> <p>24 MS. O'DELL: Object to the</p>
<p style="text-align: right;">Page 215</p> <p>1 such as foreign body giant cell reactions or</p> <p>2 fibrosis in the tissue, right?</p> <p>3 A. In one out of 24.</p> <p>4 Q. That wasn't my question. That</p> <p>5 was their finding, right?</p> <p>6 MS. O'DELL: Object to the</p> <p>7 form.</p> <p>8 A. Their finding in one out of 24.</p> <p>9 BY MS. BROWN:</p> <p>10 Q. Do you have evidence that in</p> <p>11 the other 23 they saw evidence of an</p> <p>12 inflammatory reaction to talc?</p> <p>13 A. I don't have any evidence that</p> <p>14 they looked at the other 23.</p> <p>15 Q. Do you have any evidence at all</p> <p>16 that talc found in the ovary produces an</p> <p>17 inflammatory response?</p> <p>18 A. Yes.</p> <p>19 Q. And what's that?</p> <p>20 A. So I'm going to look at --</p> <p>21 THE WITNESS: Can I get</p> <p>22 Henderson? Two thousand -- 1971.</p> <p>23 BY MS. BROWN:</p> <p>24 Q. I have it here. Let's just</p>	<p style="text-align: right;">Page 217</p> <p>1 form.</p> <p>2 A. I don't have any evidence on</p> <p>3 the other 23 cases.</p> <p>4 BY MS. BROWN:</p> <p>5 Q. And in the Henderson article</p> <p>6 that you just pointed us to, there's</p> <p>7 similarly no evidence about whether or not</p> <p>8 there was an inflammatory reaction. True?</p> <p>9 A. It doesn't look like they</p> <p>10 looked.</p> <p>11 Q. And the way we got started</p> <p>12 talking about -- and you would agree, based</p> <p>13 on the pleurodesis studies, that it is</p> <p>14 possible for talc to cause an inflammatory</p> <p>15 reaction that does not lead to cancer. True?</p> <p>16 A. In the talc -- in pleurodesis</p> <p>17 studies, that's an acute reaction. The</p> <p>18 inflammation that is concerning to lead to</p> <p>19 cancer is a chronic reaction, not an acute</p> <p>20 reaction.</p> <p>21 Q. And how -- what do you rely on</p> <p>22 for how much exposure to talc takes someone</p> <p>23 from a chronic in- -- an acute inflammatory</p> <p>24 response to a chronic inflammatory response?</p>

<p style="text-align: right;">Page 218</p> <p>1 MS. O'DELL: Object to the 2 form. 3 A. What do I rely on for how much 4 exposure of talc? Exposure to talc over 5 time, can lead to a chronic response, chronic 6 inflammatory response. If you're looking 7 under the microscope at an ovary or something 8 that has talc in it, in that slide you may or 9 may not see an inflammatory response, either 10 acute or chronic, for several reasons. One, 11 that if the talc has been there a long time, 12 you might be -- not be looking when you see 13 obvious inflammatory response either acute or 14 chronic. The second is that you might not be 15 looking at every part of the specimen, to 16 determine if it's just the section that 17 you're looking at. 18 BY MS. BROWN: 19 Q. Have you attempted to quantify 20 how much exposure over time leads to the 21 chronic inflammation you were just 22 describing? 23 MS. O'DELL: Object to the 24 form.</p>	<p style="text-align: right;">Page 220</p> <p>1 A. I know he was doing some 2 research and I wanted to hear from him about 3 what exactly he was looking at, how he was 4 studying it and what his plans were to try to 5 investigate in an in vitro way, the mechanism 6 by which talc can cause ovarian cancer. 7 Q. Would you agree that the 8 mechanism or the proposed mechanism by which 9 talc can cause ovarian cancer, is not well 10 understood today? 11 MS. O'DELL: Object to the 12 form. 13 A. I would agree that there are 14 several lines of evidence, including all of 15 the body of Dr. Saed's work, as well as 16 Dr. Shukla's paper and Dr. Buz'Zard's paper, 17 that suggest that inflammation plays a role 18 in the carcinogenesis of talcum powder 19 product to cause ovarian cancer. And that 20 the most recent work from Dr. Saed's lab, 21 which he's not the first author but the 22 senior author, shows that there's a dose 23 response for the amount of talc and that it's 24 not just inflammation that secondarily causes</p>
<p style="text-align: right;">Page 219</p> <p>1 A. When I look at the literature 2 as a whole, again, going back to the 3 epidemiology literature that attempted to 4 look at dose response, it seems like the -- 5 that several of the studies suggests that 6 more doses, and I'm putting that in quotes 7 because it's not measured, it's not a 8 specific amount, but more exposure increases 9 the risk of ovarian cancer. And so my 10 inference from that, from putting the whole 11 of the literature together, is that the 12 longer -- the more the dose, the more likely 13 the more inflammation and more cell damage, 14 inflammation causing an oxidative response 15 that then can lead down to DNA damage and, in 16 fact, in Saed's most recent abstract genetic 17 changes from talc. 18 BY MS. BROWN: 19 Q. You billed time to the 20 plaintiff's lawyers for speaking to Dr. Saed; 21 is that right? 22 A. Yes. 23 Q. What was the purpose of that 24 conversation?</p>	<p style="text-align: right;">Page 221</p> <p>1 genetic changes, but there's actual genetic 2 changes in the cells that can be 3 carcinogenic. 4 BY MS. BROWN: 5 Q. You testified earlier, I 6 believe, that the opinion that talc particles 7 can migrate to the ovaries is well accepted 8 in the medical community. Do you remember 9 that? 10 A. That migration of inert 11 substances is well accepted in the medical 12 community and, in fact, by the FDA. 13 Q. And would you consider that to 14 include talcum powder? 15 A. I would. 16 Q. And, in fact, you state in your 17 report on page 17, that, "The evidence 18 supporting migration is robust and 19 universally accepted by the gynecologic 20 community." 21 Right? 22 A. Yes. 23 Q. Now, IARC doesn't agree with 24 that, right?</p>

<p style="text-align: right;">Page 222</p> <p>1 MS. O'DELL: Object to the 2 form. 3 A. So my sentence here says 4 "within the gynecologic community." 5 BY MS. BROWN: 6 Q. Did you mean to exclude the 7 international research on cancer? 8 MS. O'DELL: Object to the 9 form. 10 A. No. I'm saying that my 11 sentence here says it's universally accepted 12 within the gynecologic community. 13 BY MS. BROWN: 14 Q. Were you aware that it's 15 rejected by IARC? 16 MS. O'DELL: Object to the 17 form. 18 A. My understanding is that it's 19 not rejected, that in that report that you're 20 referring to, which I think is the 2010 21 report, that they -- that the evidence that 22 they looked at, they said that it was weak, 23 not rejected. 24</p>	<p style="text-align: right;">Page 224</p> <p>1 BY MS. BROWN: 2 Q. And you would agree with me, 3 Doctor, that all of the information you cite 4 on pages 10 and 11 was available to the 5 International Agency for Research on Cancer 6 in 2010. True? 7 MS. O'DELL: Object to the 8 form. 9 A. I'd have to look at everything 10 that they reviewed to see if they reviewed 11 all of that. 12 BY MS. BROWN: 13 Q. I'm handing you what we've 14 marked as Exhibit 15. 15 (Deposition Exhibit 13 marked 16 for identification.) 17 BY MS. BROWN: 18 Q. And I want to start by 19 directing your attention to page -- 20 MS. BROWN: I'm sorry, we have 21 a copy for you, Counsel. 22 BY MS. BROWN: 23 Q. This is IARC monograph on talc, 24 2010, and I want to start by directing your</p>
<p style="text-align: right;">Page 223</p> <p>1 BY MS. BROWN: 2 Q. And have you looked at any 3 additional evidence, other than that which 4 IARC considered, which leads you to believe 5 that it's universally accepted? 6 A. I'd have to look at everything 7 that IARC looked at and compare it to what I 8 looked at to say if it's different. 9 Q. Well, what was your methodology 10 in terms of considering the International 11 Agency for Research on Cancer's conclusion 12 that the evidence for migration is weak? 13 MS. O'DELL: Object to the 14 form. 15 A. You know, I -- as I've stated 16 before, I used all of the information as a 17 whole, to determine my opinion and my -- and 18 when I look at the bulk of the evidence and 19 with my experience and with what I know about 20 gynecology, there's multiple lines of 21 evidence that show that migration of inert 22 particles occurs, and that retrograde 23 migration occurs. 24</p>	<p style="text-align: right;">Page 225</p> <p>1 attention to page 33, under the section 2 entitled "Mechanistic and other relevant 3 data." 4 MS. O'DELL: What page? 5 THE WITNESS: Thirty-three. 6 MS. BROWN: Sorry, is that 13? 7 I may have mismarked it. 8 MS. O'DELL: That says that's 9 15. 10 A. 15. 11 MS. BROWN: Should be 13. 12 We'll correct it. 13 A. Do you want it back? 14 BY MS. BROWN: 15 Q. Yeah, sorry. Thank you, 16 Doctor. Handing back to you what is 17 Exhibit 13. 18 MS. BROWN: Thank you, Alexis. 19 BY MS. BROWN: 20 Q. And I want to direct your 21 attention to page 33. And this IARC 22 monograph on talc, nonasbestiform talc, of 23 course, you reviewed in connection with your 24 opinions in this case. True?</p>

<p style="text-align: right;">Page 226</p> <p>1 A. Yes.</p> <p>2 Q. Okay. And you are aware that</p> <p>3 IARC considers the strength of the evidence</p> <p>4 as it relates to a proposed mechanism for</p> <p>5 cancer, correct?</p> <p>6 A. Yes.</p> <p>7 Q. Okay. And you see here on</p> <p>8 page 33 that IARC evaluates those, using</p> <p>9 terms such as "weak," "moderate" or "strong,"</p> <p>10 correct?</p> <p>11 A. Yes.</p> <p>12 Q. Okay. And IARC, if you would</p> <p>13 turn to page 411, evaluated the data as it</p> <p>14 relates to migration, right?</p> <p>15 MS. O'DELL: Object to the</p> <p>16 form.</p> <p>17 BY MS. BROWN:</p> <p>18 Q. And I'll direct you, excuse me,</p> <p>19 Doctor --</p> <p>20 A. Are you directing me to</p> <p>21 something specific on this page?</p> <p>22 Q. I am.</p> <p>23 A. Okay.</p> <p>24 Q. I'll direct you to the -- one,</p>	<p style="text-align: right;">Page 228</p> <p>1 you employed to arrive at a conclusion that</p> <p>2 is diametrically opposed to the one IARC</p> <p>3 wrote about in 2010?</p> <p>4 MS. O'DELL: Object to the</p> <p>5 form.</p> <p>6 A. I don't -- I don't believe it's</p> <p>7 diametrically opposed and I believe that when</p> <p>8 I reviewed all of the evidence and from my</p> <p>9 own knowledge of gynecology and practicing</p> <p>10 and my expertise in the last 30 years and</p> <p>11 seeing multiple patients with endometriosis</p> <p>12 and evidence of retrograde menstruation, that</p> <p>13 my opinion is that migration occurs. And</p> <p>14 that I believe that it's the opinion of the</p> <p>15 general gynecology community that migration</p> <p>16 does occur. And another reputable</p> <p>17 institution is the FDA, who says that the</p> <p>18 ability for particulates to migrate is</p> <p>19 indisputable.</p> <p>20 BY MS. BROWN:</p> <p>21 Q. And what you're referring to is</p> <p>22 the 2014 citizen's petition, right?</p> <p>23 A. Yes.</p> <p>24 Q. And do you find that to be a</p>
<p style="text-align: right;">Page 227</p> <p>1 two, three -- fourth paragraph that begins</p> <p>2 with "Perineal exposure."</p> <p>3 A. Okay.</p> <p>4 Q. And you see that IARC reports</p> <p>5 on its review of the studies on potential</p> <p>6 migration. True?</p> <p>7 A. Yes.</p> <p>8 Q. And on balance, what the IARC</p> <p>9 working group concluded was that the evidence</p> <p>10 for retrograde transport of talc to the</p> <p>11 ovaries in normal women is weak, right?</p> <p>12 A. Yes.</p> <p>13 Q. And that is their lowest</p> <p>14 classification of mechanistic evidence,</p> <p>15 correct?</p> <p>16 A. Yes.</p> <p>17 Q. And you believe IARC is a</p> <p>18 reputable international health agency, right?</p> <p>19 A. Yes.</p> <p>20 Q. And so you considered its</p> <p>21 conclusion, that the evidence for retrograde</p> <p>22 migration is weak, right?</p> <p>23 A. I did.</p> <p>24 Q. And so tell me what methodology</p>	<p style="text-align: right;">Page 229</p> <p>1 reliable authority on the review of the</p> <p>2 literature regarding talc and ovarian cancer?</p> <p>3 A. This is not regarding --</p> <p>4 necessarily regarding talc and ovarian</p> <p>5 cancer. It's the idea that things can</p> <p>6 migrate from the perineum through the genital</p> <p>7 tract. That's what I based my opinion on</p> <p>8 that.</p> <p>9 Q. We're talking about two</p> <p>10 different things. You just referenced the</p> <p>11 2014 response to a citizen's petition, right?</p> <p>12 A. Yes.</p> <p>13 Q. And do you -- and in that</p> <p>14 response, the FDA went through its review of</p> <p>15 the literature on talc and ovarian cancer,</p> <p>16 correct?</p> <p>17 A. Yes.</p> <p>18 Q. And do you regard that as</p> <p>19 authoritative and reputable?</p> <p>20 MS. O'DELL: Object to the</p> <p>21 form.</p> <p>22 A. Yes.</p> <p>23 BY MS. BROWN:</p> <p>24 Q. Okay. And one of the things</p>

<p style="text-align: right;">Page 230</p> <p>1 you're pointing to, is the FDA's statement 2 that particles can migrate from the perineum 3 in the vagina to the peritoneal cavity, 4 correct? 5 A. That's correct. 6 Q. And the FDA, of course, doesn't 7 cite to any evidence that talc can migrate 8 from the exterior of the vagina to the 9 ovaries, correct? 10 MS. O'DELL: Object to the 11 form. If you're pointing -- going to 12 point Dr. Wolf to a particular part of 13 the letter, then I would ask you to 14 show it to her. 15 MS. BROWN: Absolutely. 16 MS. O'DELL: So if you need to 17 see the letter -- 18 A. Yeah, let me see the letter. 19 MS. O'DELL: -- to respond to 20 the question, please ask for it. 21 BY MS. BROWN: 22 Q. I'm going to show you the 23 letter and I want to talk about it, but you 24 raised the statement about the particles,</p>	<p style="text-align: right;">Page 232</p> <p>1 response to the citizen's petition by the FDA 2 in 2014? 3 A. I'm sure I did. 4 Q. And, in fact, as support for 5 your opinion that talc applied on the 6 exterior of the vagina can migrate to the 7 ovaries, you referenced a sentence from that 8 letter, right? 9 A. That's correct. 10 Q. Okay. But we agree that the 11 FDA was talking about particles generally, 12 correct? 13 MS. O'DELL: Object to the 14 form. 15 A. The FDA was talking about 16 particulates in general. 17 BY MS. BROWN: 18 Q. Okay. And did you review, and 19 I'll hand you what we've marked as 20 Exhibit 14, the entirety of what the FDA had 21 to say about the epidemiology and the 22 evidence as it relates to talc and ovarian 23 cancer? 24</p>
<p style="text-align: right;">Page 231</p> <p>1 right? 2 MS. O'DELL: She did. But she 3 doesn't have to answer questions about 4 the letter aside from what she said. 5 MS. BROWN: I'm not talking -- 6 MS. O'DELL: If you want to ask 7 specific questions about the letter -- 8 MS. BROWN: I'm going to show 9 her the letter. 10 MS. O'DELL: Then show her the 11 letter. 12 MS. BROWN: Okay. But I can 13 ask lead-up questions about the 14 letter. 15 MS. O'DELL: Right. 16 MS. BROWN: It doesn't have 17 to -- 18 MS. O'DELL: Let me finish. In 19 order to answer any of the questions, 20 counsel asked if you need the letter, 21 please ask for it and I'm sure she'll 22 provide it to you. 23 BY MS. BROWN: 24 Q. Dr. Wolf, did you review the</p>	<p style="text-align: right;">Page 233</p> <p>1 (Deposition Exhibit 14 marked 2 for identification.) 3 MS. O'DELL: Object to the 4 form. 5 (Witness reviews document.) 6 A. You asked me if I reviewed the 7 entire thing as to their opinion. And the 8 answer is yes. And what did you -- 9 BY MS. BROWN: 10 Q. That was the only question. 11 A. That was the only question. 12 Q. All right. And you'll agree on 13 the first page, third paragraph, the FDA 14 concludes that it did not find that the data 15 submitted presented conclusive evidence of a 16 causal association between talc used in the 17 perineal area and ovarian cancer, right? 18 MS. O'DELL: Object to the 19 form. 20 BY MS. BROWN: 21 Q. That's what the FDA said? 22 A. That's what the letter says. 23 Q. That was the FDA's sentence in 24 a letter to the Cancer Prevention Coalition</p>

<p style="text-align: right;">Page 234</p> <p>1 in April of 2014, correct?</p> <p>2 A. Yes.</p> <p>3 Q. And you, Dr. Wolf, disagree</p> <p>4 with that. True?</p> <p>5 A. I do.</p> <p>6 Q. Okay. And so what methodology</p> <p>7 did you employ to distinguish your review of</p> <p>8 the literature from the Food and Drug</p> <p>9 Administration's review?</p> <p>10 A. The first thing is, is that I</p> <p>11 have more literature to support my opinion</p> <p>12 that was not yet available for the FDA.</p> <p>13 Q. And so tell me what that is,</p> <p>14 Doctor.</p> <p>15 A. So all of the -- there are</p> <p>16 three of the case report studies that I have</p> <p>17 referenced in my article: Wu and Cramer and</p> <p>18 Schildkraut. And, in fact, Schildkraut was</p> <p>19 an NCI-sponsored study of African-American</p> <p>20 women and use of talcum powder and risk of</p> <p>21 ovarian cancer. And after it's been</p> <p>22 published, the NCI did update their talcum</p> <p>23 powder on ovarian cancer, to say that this</p> <p>24 study has shown that it increases risk of</p>	<p style="text-align: right;">Page 236</p> <p>1 MS. O'DELL: Excuse me. Object</p> <p>2 to the form. Give me just a minute to</p> <p>3 object. Fair enough. Sorry.</p> <p>4 A. Additionally, the</p> <p>5 meta-analysis, the Penninkilampi study that</p> <p>6 was published in 2017.</p> <p>7 BY MS. BROWN:</p> <p>8 Q. And that didn't include any new</p> <p>9 information, though, right? It's a</p> <p>10 meta-analysis of old data. True?</p> <p>11 A. Of all of the data, some of</p> <p>12 which wasn't available when the FDA wrote</p> <p>13 this letter.</p> <p>14 Q. Sure. But if we're trying to</p> <p>15 identify new data that you, Dr. Wolf, are</p> <p>16 relying on that the FDA didn't have, we have</p> <p>17 three case-control studies and an unpublished</p> <p>18 manuscript by a plaintiffs' expert?</p> <p>19 MS. O'DELL: Object to the --</p> <p>20 excuse me, object to the form,</p> <p>21 misstates her testimony.</p> <p>22 A. There's also two of the three</p> <p>23 cohort studies, the Nurses Health and Women's</p> <p>24 Health Initiative, the Sister Study. The</p>
<p style="text-align: right;">Page 235</p> <p>1 ovarian cancer in African-American women.</p> <p>2 And then the meta-analysis Penninkilampi 2018</p> <p>3 was not available. The recent abstracts and</p> <p>4 now paper from Dr. Saed on causation was not</p> <p>5 available.</p> <p>6 Q. So the three case-control</p> <p>7 studies that you believe distinguish your</p> <p>8 review of the literature from the FDA's are</p> <p>9 Wu 2015, Cramer 2016, and Schildkraut 2016,</p> <p>10 correct?</p> <p>11 A. Yes.</p> <p>12 Q. In addition to a -- is it a</p> <p>13 published paper by Dr. Saed?</p> <p>14 A. It's accepted for publication</p> <p>15 and there's four abstracts.</p> <p>16 Q. Okay. Has it been published</p> <p>17 yet, to your knowledge?</p> <p>18 A. It hasn't yet been published.</p> <p>19 Q. Okay. So in addition to the</p> <p>20 three case-control studies, there is an</p> <p>21 unpublished paper by a plaintiffs' expert in</p> <p>22 the talc litigation, that you say you're</p> <p>23 using to distinguish your review from the</p> <p>24 FDA's review?</p>	<p style="text-align: right;">Page 237</p> <p>1 Women's Health Initiative was published in</p> <p>2 2014, so they wouldn't have had it, likely</p> <p>3 wouldn't have, and the Sister Study.</p> <p>4 BY MS. BROWN:</p> <p>5 Q. And what was the finding as it</p> <p>6 relates to an increased talc use in ovarian</p> <p>7 cancer in the Sister Study?</p> <p>8 A. The Sister Study did not find a</p> <p>9 statistically significant increase, one of</p> <p>10 the issues with all of the three cohort</p> <p>11 studies is none of them are large enough to</p> <p>12 detect a difference and none of them looked</p> <p>13 at use over time.</p> <p>14 Q. Well, we're going to talk about</p> <p>15 that. But you'd agree that the Sister Study</p> <p>16 and the follow-up to the Nurses Health Study</p> <p>17 would not have changed the opinion of the</p> <p>18 FDA, that there's not a causative link twine</p> <p>19 talcum powder and ovarian cancer --</p> <p>20 MS. O'DELL: Object to the</p> <p>21 form.</p> <p>22 BY MS. BROWN:</p> <p>23 Q. -- right?</p> <p>24 A. I'm going to say that</p>

<p style="text-align: right;">Page 238</p> <p>1 indirectly they might have if they had had 2 the meta-analysis by Penninkilampi, because 3 in that meta-analysis of the cohort studies 4 there was a statistical significantly 5 increase in serous carcinoma, which is the 6 most common type of epithelial ovarian 7 cancer, that if you were going to find 8 something in those number of women, serous 9 would be the most likely that you would find 10 a significant increase when they looked at 11 all of the cohort studies together. 12 Q. Now, of course Wu, the other 13 study that you pointed us to, found a greater 14 increase in the nonserous cancers, right? 15 THE WITNESS: Do you have Wu 16 for me to review? 17 MS. O'DELL: Yeah. 18 A. Yeah, it's not here. 19 BY MS. BROWN: 20 Q. I'll give you a copy, Doctor. 21 So we'll mark Wu as Exhibit 14. 22 (Deposition Exhibit 15 marked 23 for identification.) 24</p>	<p style="text-align: right;">Page 240</p> <p>1 subtype, right? And I'll direct you to Table 2 3 for that. 3 MS. O'DELL: Just for you to 4 orient yourself, Doctor. 5 THE WITNESS: Got it. 6 A. Which Schildkraut? 7 BY MS. BROWN: 8 Q. 2016. 9 A. 2016. 10 MS. BROWN: I'll give you a 11 copy right now. 12 A. So it does show a -- 13 significant in nonserous. 14 BY MS. BROWN: 15 Q. Right. And that's not 16 consistent with some of the other studies, 17 like Penninkilampi that you were talking 18 about earlier, correct? 19 A. Well, what I was specifically 20 talking about Penninkilampi was the cohort 21 studies, finding a statistical significantly 22 increase in serous cancers. If you look at 23 all of the studies, varying -- often it's 24 serous. It doesn't have to be serous. Some</p>
<p style="text-align: right;">Page 239</p> <p>1 BY MS. BROWN: 2 Q. I'll direct you to page 1414, 3 which is the "Subgroup Analysis by Histologic 4 Type." 5 MS. BROWN: Counsel, I have a 6 copy for you. Page 1414. I have two, 7 actually. 8 A. This must not be the right 9 paper either. There's no page 1414. 10 MS. BROWN: Wrong -- 11 A. Because there's a couple of 12 Wu's. 13 BY MS. BROWN: 14 Q. Yeah, there's two. We'll 15 remark it. This is it. No, this is another 16 Wu. I misspoke, Doctor. I meant to point 17 you to Schildkraut 2016, which is another 18 study that you identified as high quality, 19 right? 20 A. Yes. 21 Q. We'll mark that, as was my 22 intention, as 14. And you know one of the 23 findings of Schildkraut was a greater 24 association with the nonserous histologic</p>	<p style="text-align: right;">Page 241</p> <p>1 of the other studies found an increase in 2 endometrioid borderline tumors, other cell 3 types of ovarian tumors. 4 Q. Is it your opinion, Doctor, 5 that talcum powder use perineally increases a 6 woman's risk of all different histologic 7 types of ovarian cancer? 8 A. Well, I'm going to say that 9 we're looking at epithelial ovarian cancer, 10 and I don't have any evidence that has any 11 effect on stromal tumors or dermal cell 12 tumors. I think of all of the epithelial 13 subtypes, that it's been shown to have -- in 14 some studies, in various studies, an increase 15 in serous or endometrioid. And the other 16 subtypes are usually so small that there's 17 probably enough to know statistical 18 significance, such as clear cell or mucinous. 19 In this study by Schildkraut, it's just 20 serous or nonserous. They don't break up the 21 other subtypes, at least in this table. 22 Q. And the finding of the 23 nonserous increased risk is not consistent 24 with Penninkilampi's finding on that score,</p>

<p style="text-align: right;">Page 242</p> <p>1 correct?</p> <p>2 MS. O'DELL: Object to the</p> <p>3 form.</p> <p>4 A. In the cohort studies, it was</p> <p>5 serous. That was statistically significant.</p> <p>6 The two are not -- one does not negate the</p> <p>7 other. What I'm saying is that any of the</p> <p>8 epithelial varying tumors could possibly be</p> <p>9 increased, any cell type. This one shows</p> <p>10 nonserous. The meta-analysis of the cohorts</p> <p>11 showed serous, even though, except for the</p> <p>12 first report of the Nurses Health Study there</p> <p>13 wasn't any statistical increase in the cohort</p> <p>14 studies, one does not negate the other.</p> <p>15 BY MS. BROWN:</p> <p>16 Q. Gates was a follow-up to</p> <p>17 Gertig's --</p> <p>18 A. Gertig -- yeah.</p> <p>19 (Simultaneous discussion</p> <p>20 interrupted by reporter.)</p> <p>21 BY MS. BROWN:</p> <p>22 Q. Gates was a follow-up to --</p> <p>23 A. Gertig --</p> <p>24 MS. O'DELL: If you would let</p>	<p style="text-align: right;">Page 244</p> <p>1 BY MS. BROWN:</p> <p>2 Q. Sure. As a scientist</p> <p>3 evaluating data on cancer, the longer folks</p> <p>4 are studied, the more available information</p> <p>5 there is. True?</p> <p>6 MS. O'DELL: Object to the</p> <p>7 form.</p> <p>8 A. That's true.</p> <p>9 BY MS. BROWN:</p> <p>10 Q. And in evaluating the body of</p> <p>11 literature on talc and ovarian cancer, you</p> <p>12 wouldn't want to close your eyes to some of</p> <p>13 the studies that include additional</p> <p>14 follow-up. True?</p> <p>15 MS. O'DELL: Object to the</p> <p>16 form.</p> <p>17 A. I don't.</p> <p>18 BY MS. BROWN:</p> <p>19 Q. Did you know that Penninkilampi</p> <p>20 does not include the Gates study?</p> <p>21 A. So I'm going to look at that</p> <p>22 paper again to see why he might have left --</p> <p>23 he or she left the Gates study out.</p> <p>24 Q. And for the record, we'll mark</p>
<p style="text-align: right;">Page 243</p> <p>1 her finish and vice versa, I'll do my</p> <p>2 best not to interrupt you.</p> <p>3 BY MS. BROWN:</p> <p>4 Q. Dr. Wolf, Gates was a follow-up</p> <p>5 of the cohort that was followed in the Gertig</p> <p>6 Nurses Health Study, correct?</p> <p>7 A. That's correct.</p> <p>8 Q. And when that cohort was</p> <p>9 followed longer in Gates, there was no</p> <p>10 association with serous cancer, correct?</p> <p>11 A. That's correct.</p> <p>12 Q. And do you agree that it's</p> <p>13 important, when evaluating a body of</p> <p>14 literature, to evaluate all available</p> <p>15 information?</p> <p>16 A. Yes.</p> <p>17 Q. And particularly as it relates</p> <p>18 to the follow-up of individuals who were</p> <p>19 initially studied for perhaps a shorter</p> <p>20 period of time. Fair?</p> <p>21 MS. O'DELL: Object to the</p> <p>22 form.</p> <p>23 A. So long-term follow-up is</p> <p>24 always helpful, yes.</p>	<p style="text-align: right;">Page 245</p> <p>1 Penninkilampi as Exhibit 16 your deposition.</p> <p>2 (Deposition Exhibit 16 marked</p> <p>3 for identification.)</p> <p>4 BY MS. BROWN:</p> <p>5 Q. And to help with your review,</p> <p>6 Doctor, if you want to, take as much as you</p> <p>7 need, but page 46 lists the name of the</p> <p>8 studies that are included and Table A was the</p> <p>9 meta-analysis for ever use in ovarian cancer.</p> <p>10 And you agree with me that Gates 2010 is not</p> <p>11 included?</p> <p>12 MS. O'DELL: Feel free to take</p> <p>13 a look at the paper before you answer</p> <p>14 the questions, Doctor.</p> <p>15 A. I see that it was not included.</p> <p>16 BY MS. BROWN:</p> <p>17 Q. And in writing your report and</p> <p>18 identifying Gates as one of the higher</p> <p>19 quality studies, were you aware at the time</p> <p>20 that Gates had omitted the follow-up to the</p> <p>21 Nurses Health Study as published in Gates</p> <p>22 2010?</p> <p>23 MS. O'DELL: Object to the form</p> <p>24 of the question. I don't think that</p>

<p style="text-align: right;">Page 246</p> <p>1 she referred to Gates as a 2 high-quality study in her report. 3 MS. BROWN: Let me rephrase. 4 That's my fault. 5 BY MS. BROWN: 6 Q. In writing your report and 7 identifying Penninkilampi as one of the 8 higher quality studies, were you aware that 9 Penninkilampi excluded the Gates 2010 10 follow-up to the Nurses Health Study? 11 A. Given that they left it out or 12 they didn't include it, to me it doesn't 13 negate that I think the Penninkilampi study 14 is a good study. I was trying to see if 15 there was a reason why they didn't look at it 16 and I don't see anything mentioned in their 17 methods or in their discussion or their 18 results as to why they did not include it. I 19 still think the Penninkilampi is a good 20 study. 21 Q. Okay. And you are not at all 22 concerned -- would you weigh Penninkilampi 23 less, given the fact that it did not include 24 the most complete data from the Nurses</p>	<p style="text-align: right;">Page 248</p> <p>1 BY MS. BROWN: 2 Q. So your critique of the Berge 3 paper is that there's not a subgroup analysis 4 by histologic type? 5 MS. O'DELL: Object to the 6 form. 7 A. That's -- that wasn't a 8 critique, it's a piece of information. That 9 differently from the Penninkilampi study, 10 which was looking specifically at serous 11 histology of the cohorts, the Berge study 12 didn't look at serous from the cohort 13 separately, they looked at serous overall 14 separately. It's just a difference. It's 15 not a critique. 16 BY MS. BROWN: 17 Q. So one of the things that 18 Penninkilampi looked at was whether ever use 19 of talc increases the risk for ovarian 20 cancer. 21 A. Yes. 22 Q. Do you understand that? 23 A. Yes. 24 Q. And that is the same question</p>
<p style="text-align: right;">Page 247</p> <p>1 Health? 2 MS. O'DELL: Object to form. 3 A. I'm -- I can't answer that 4 question because I don't know what the data 5 would look like if they included the study. 6 BY MS. BROWN: 7 Q. Well, did you review the Berge 8 analysis, the meta-analysis that was done 9 close to the same time? 10 A. Yes. 11 Q. Okay. And were you aware that 12 Berge actually did include Gates as the most 13 recent representation of the Nurses Health 14 cohort? We'll mark the Berge meta-analysis 15 as Exhibit 17. 16 (Deposition Exhibit 17 marked 17 for identification.) 18 (Witness reviews document.) 19 A. So what I don't see in the 20 Berge paper is if they separated out serous 21 for the cohort studies. They looked at 22 serous separately in the study. What I don't 23 see, that they looked at serous histology in 24 the case-control versus the cohorts.</p>	<p style="text-align: right;">Page 249</p> <p>1 that was investigated by Berge, correct? 2 A. Yes. 3 Q. And Penninkilampi excluded the 4 most recent data on the Nurses Health cohort 5 and Berge included it, correct? 6 A. Yes. 7 MS. O'DELL: Object to the 8 form. 9 A. And in ever use of talc in the 10 cohort studies, both of them found no -- 11 nothing, no significant increase. 12 In the Penninkilampi study, 13 which I understand does not include the Gates 14 data, when they looked specifically at the 15 cohort studies, there was a significant 16 increase in serous. 17 In the Berge study when they 18 looked at everything, case-control and 19 cohorts together, there was a significant 20 increase in the risk for serous histology. 21 BY MS. BROWN: 22 Q. I'm sorry, say that last part 23 again, in the -- 24 A. In the Berge study --</p>

<p style="text-align: right;">Page 250</p> <p>1 Q. Uh-huh. 2 A. -- what I'm reading here is, 3 there is a significant increase in serous 4 histology. 5 Q. In the case-control studies, 6 correct? 7 A. I don't see that they separated 8 out the case-control studies. 9 Q. In reviewing the Berge and 10 Penninkilampi meta-analyses, did you pay 11 attention to the tests for heterogeneity that 12 the authors did in terms of which studies 13 could and could not be combined? 14 A. In which study are you asking 15 me about? I'm sorry. I'm still distracted 16 by the Berge one here. 17 Q. Do you understand the concept 18 of heterogeneity in meta-analysis? 19 A. Yes. 20 Q. Okay. And so you understand 21 that there are certain studies that can -- 22 because of their study design cannot be 23 combined, correct? 24 A. Yes.</p>	<p style="text-align: right;">Page 252</p> <p>1 BY MS. BROWN: 2 Q. Even though it excludes the 3 most recent data from the Nurses Health 4 Study. True? 5 MS. O'DELL: Object to the 6 form. 7 A. I specifically chose it because 8 it's the most recent one. 9 BY MS. BROWN: 10 Q. Okay. And you understand that 11 the Berge meta-analysis was published at 12 right about the same time, right? 13 MS. O'DELL: Object to the 14 form. 15 A. I have to look at the exact 16 date. 17 MS. BROWN: We need to change 18 the tape, so let's go off for a 19 second. 20 THE VIDEOGRAPHER: Going off 21 the record. The time is 2:21 p.m. 22 (Recess taken from 2:21 p.m. to 23 2:26 p.m.) 24 THE VIDEOGRAPHER: This marks</p>
<p style="text-align: right;">Page 251</p> <p>1 Q. And in evaluating the 2 Penninkilampi meta-analysis and the Berge 3 meta-analysis, did you undertake an effort to 4 evaluate the heterogeneity of the studies 5 that were combined in those two 6 meta-analyses? 7 A. And compare the two, is that 8 what you're asking me? 9 Q. Sure. Here's what I'm after, 10 Doctor. I understand that you made a 11 determination Penninkilampi is one of the 12 more high-quality studies? 13 A. Yes. 14 Q. And I want to understand your 15 methodology in selecting Penninkilampi as a 16 higher quality study than Berge. 17 MS. O'DELL: Object to the 18 form. 19 A. So when I look at all of the 20 meta-analyses, they all show a significant 21 increase in the risk of ovarian cancer with 22 minimal use of talcum powder use. I 23 specifically chose the Penninkilampi one 24 because it was the most recent one.</p>	<p style="text-align: right;">Page 253</p> <p>1 the beginning of disk 3. Back on the 2 record. The time is 2:26 p.m. 3 BY MS. BROWN: 4 Q. Dr. Wolf, before we took a 5 break, we were discussing the difference 6 between Penninkilampi and the Berge 7 meta-analyses. I want to direct your 8 attention to page 42 of the Penninkilampi 9 article. 10 A. That's in this one. Page 42. 11 Q. And in the first paragraph on 12 the left-hand column, one of the things the 13 authors of Penninkilampi note, is that the 14 majority of the evidence as it relates to 15 perineal talc use in ovarian cancer has come 16 from case-control studies, correct? 17 MS. O'DELL: Where are you 18 reading? 19 A. Where are you reading? 20 BY MS. BROWN: 21 Q. "The evidence for the 22 association between perineal talc use and 23 ovarian cancer is based on the body of 24 knowledge from observational studies and most</p>

<p style="text-align: right;">Page 254</p> <p>1 of these have been retrospective case-control 2 studies prone to recall bias." 3 Do you see that? 4 A. I see that. 5 Q. And do you agree with that, 6 Doctor, that most of the case-control studies 7 that you evaluated and that form the body of 8 epidemiology on talc and ovarian cancer are 9 prone to recall bias? 10 MS. O'DELL: Object to the 11 form. 12 A. I don't agree with that 13 statement. I do agree that one concern of 14 case-control studies is recall bias. I 15 believe that was acknowledged in most, if not 16 all, of the case-control studies and felt not 17 to be an issue. And I looked at that, but 18 the weight of the evidence suggests that most 19 of the studies showed a relationship. 20 Also in a rare disease like 21 ovarian cancer, although a prospective study 22 would be -- might be -- give us more 23 information, the number of women and the 24 amount of time that it would take to do a</p>	<p style="text-align: right;">Page 256</p> <p>1 biostatistician, correct? 2 A. No. 3 Q. Okay. Did you perform a power 4 calculation on any of the studies that you 5 reviewed? 6 A. I did not, but Dr. Narod 7 published a paper where he actually looked at 8 that question and estimated that it would 9 take about 200,000 women to answer the 10 question, and none of these studies have 11 that. 12 Q. And have you calculated how 13 many women were studied in all of the 14 prospective studies and whether or not that 15 was more or less than 200,000? 16 A. Well, if you look at all of 17 them together, putting them together, there 18 are more than 200,000. 19 Q. And did that inform your 20 opinion that the prospective studies -- how 21 did you consider that fact in making the 22 statement that the cohort studies are limited 23 by a lack of power? 24 A. Because each individual study</p>
<p style="text-align: right;">Page 255</p> <p>1 prospective study makes it challenging, and 2 that's one of the challenges with all of the 3 cohort studies. None of them are big enough 4 and most of them are not followed long 5 enough. 6 And so case-control studies are 7 what -- the best way to study a rare disease 8 like this. And given the consistency in the 9 findings, although recall bias can occur, I 10 don't believe it -- after my review of the 11 entire literature, I'm not concerned that 12 recall bias had an effect on the results. 13 BY MS. BROWN: 14 Q. You state in your report on 15 page 8, that all of the cohort studies are 16 limited by lack of power. 17 A. Yes. 18 Q. Is that your opinion? 19 A. Lack of power to ask the 20 specific question, yes. 21 Q. Lack of power to ask? 22 A. To answer the specific 23 question. 24 Q. Okay. And you are not a</p>	<p style="text-align: right;">Page 257</p> <p>1 is limited by lack of power. And two of the 2 three studies are limited by the amount of 3 follow-up and all of the studies are limited 4 by the documentation of how much -- how often 5 and how frequent powder was used. The -- 6 short of the Sister Study, the primary 7 endpoints of the Nurses Health Study and the 8 Women's Health Study were not to look at the 9 relationship of talc and ovarian cancer. It 10 was a secondary add-on study that was done 11 while the studies were ongoing. So they 12 weren't designed to answer that question. 13 Q. Did you consider the published 14 power calculation done by Berge? 15 A. Let me look at Berge's 16 published power calculation. 17 Q. Do you know that -- do you 18 know -- do you recall reviewing that in 19 connection with your -- 20 A. I recall -- 21 Q. -- testimony? 22 A. -- reviewing the paper. I 23 don't recall specifically what his -- his 24 person -- I don't know this person.</p>

<p style="text-align: right;">Page 258</p> <p>1 Q. I'll direct your attention, 2 then, Doctor, to page 6 of the Berge paper. 3 It looks like you might have a different 4 version than I do, but page 6 of the 5 publication, second column, first paragraph 6 on the -- 7 A. What part of the paper is it 8 in? 9 Q. The discussion section. 10 A. Okay. 11 Q. It's my third paragraph of the 12 discussion section. 13 A. Gotcha. 14 Q. And let me just read this into 15 the record to expedite us here. "An 16 important feature of the present 17 meta-analysis is the inclusion of several 18 cohort studies, which enabled an analysis 19 stratified by study design. This analysis 20 provided evidence of a heterogeneity of 21 results between the two groups of studies 22 with an association generally detected in 23 case-control studies but not in cohort 24 studies. It should be noted that the cohort</p>	<p style="text-align: right;">Page 260</p> <p>1 MS. O'DELL: Excuse me, when 2 you say "here," are you referring to 3 your report? 4 A. In my report, under "Summary of 5 Epidemiological Evidence" on page 8. 6 BY MS. BROWN: 7 Q. And one of the things, Doctor, 8 you provided a site that meta-analyses can be 9 some of the highest form of epidemiological 10 evidence, correct? 11 A. Yes. 12 Q. And the Penninkilampi study 13 that you pointed to was one of the highest -- 14 MS. O'DELL: Why don't we go 15 off the record. 16 MS. BROWN: Let's try to keep 17 going. 18 BY MS. BROWN: 19 Q. The Penninkilampi study that 20 you pointed to as one of the higher quality 21 studies is, in fact, a meta-analysis, 22 correct? 23 A. That's correct. 24 Q. And you are certainly not</p>
<p style="text-align: right;">Page 259</p> <p>1 studies included in the meta-analysis 2 comprised of a total of 429 cases of ovarian 3 cancer exposed to genital talc and 943 4 unexposed: The statistical power of the 5 meta-analysis of these cohort studies to 6 detect a relative risk of 1.25, similar to 7 the result of the meta-analysis of 8 case-control studies, was .99. Thus, low 9 power of cohort studies cannot be invoked as 10 an explanation of the heterogeneity of the 11 results." 12 Did you consider Berge's power 13 calculation when you made the statement in 14 your report, that all of the cohort studies 15 are limited by lack of power? 16 A. My statement is in relationship 17 into each study on their own, not all of them 18 together. And my statement about the lack of 19 power for all over, my opinion about that was 20 based on Narod's paper of needing 200,000 21 women. But this is about -- this is -- this 22 statement here is about each study on their 23 own. None of those studies had 200,000 24 women.</p>	<p style="text-align: right;">Page 261</p> <p>1 meaning to suggest that there's something 2 improper about pooling or combining data in a 3 meta-analysis, correct? 4 MS. O'DELL: Object to the 5 form. 6 A. I don't believe I ever said 7 anything about -- negative about a 8 meta-analysis. 9 BY MS. BROWN: 10 Q. Do you -- did you consider 11 Berge's power calculation of the pooled 12 prospective cohorts when you opined as you 13 did in your report on page 8, that all of the 14 cohort studies are limited by lack of power? 15 MS. O'DELL: Object to the 16 form. 17 A. The two are not comparing the 18 same thing. His power analysis is looking at 19 the pooled analysis. My statement was 20 regarding each individual cohort study on its 21 own. 22 BY MS. BROWN: 23 Q. Do you think there is enough 24 power in the pooled prospective cohorts to</p>

<p style="text-align: right;">Page 262</p> <p>1 detect a relative risk of 1.25?</p> <p>2 A. I see that Berge says that in</p> <p>3 his discussion. I'm not a statistician. I'd</p> <p>4 have to -- I'm not sure I could answer that</p> <p>5 and I guess I'm going to ask you to -- do you</p> <p>6 think there's enough power in the pooled</p> <p>7 prospective cohorts to detect a relative risk</p> <p>8 of 1.25? I'm going to say possibly. I don't</p> <p>9 know.</p> <p>10 Q. In identifying Penninkilampi as</p> <p>11 one of the higher quality studies, did you do</p> <p>12 an independent verification that the data</p> <p>13 Penninkilampi reports in his article is</p> <p>14 indeed accurate?</p> <p>15 A. Are you -- my understanding of</p> <p>16 what you're asking me is, did I recalculate</p> <p>17 the results? Is that what you're asking me?</p> <p>18 Q. No. I'm asking you, for</p> <p>19 example, on page 46 of Penninkilampi -- we</p> <p>20 have them as exhibits, if that makes it</p> <p>21 easier.</p> <p>22 A. No, I -- okay. Page 46.</p> <p>23 Q. Penninkilampi reports studies,</p> <p>24 a purported odds ratio, a lower limit and an</p>	<p style="text-align: right;">Page 264</p> <p>1 Q. In evaluating the Penninkilampi</p> <p>2 meta-analysis and the Berge analysis, explain</p> <p>3 to me how you weighted both of them.</p> <p>4 MS. O'DELL: Object to the</p> <p>5 form.</p> <p>6 A. When I was looking at all of</p> <p>7 the meta-analysis, including the Berge and</p> <p>8 the Penninkilampi, to me it -- all of them</p> <p>9 showed a positive correlation between genital</p> <p>10 talcum powder use and ovarian cancer. I</p> <p>11 chose the most recent one to include in my</p> <p>12 report.</p> <p>13 BY MS. BROWN:</p> <p>14 Q. Other than the fact that</p> <p>15 Penninkilampi was the most recent, is there</p> <p>16 any reason -- any other reason you didn't</p> <p>17 include Berge in your report?</p> <p>18 MS. O'DELL: Object to the</p> <p>19 form.</p> <p>20 A. Was there any other reason I</p> <p>21 didn't include Berge?</p> <p>22 BY MS. BROWN:</p> <p>23 Q. Correct.</p> <p>24 A. The reason I chose</p>
<p style="text-align: right;">Page 263</p> <p>1 upper limit. Do you see that?</p> <p>2 A. Yeah.</p> <p>3 Q. Did you go back to the</p> <p>4 individual studies to verify that</p> <p>5 Penninkilampi was correct in that reporting?</p> <p>6 A. Oh, that -- in these charts?</p> <p>7 Q. Correct.</p> <p>8 A. That every -- I did not.</p> <p>9 Q. Would it be important to you in</p> <p>10 determining that a study is of high quality,</p> <p>11 that the authors accurately report the odds</p> <p>12 ratios and the confidence intervals?</p> <p>13 A. It would, but it's not my</p> <p>14 routine or standard for me to go back and</p> <p>15 re-review the odds ratios of every paper to</p> <p>16 confirm that. I would assume that is part of</p> <p>17 the peer-review process that has happened.</p> <p>18 Q. And if there were, in fact,</p> <p>19 errors in the reporting of the odds ratios or</p> <p>20 the confidence intervals, would that call</p> <p>21 into question your reliance on the study?</p> <p>22 A. I would want to see it</p> <p>23 recalculated, if there were -- if there were</p> <p>24 errors.</p>	<p style="text-align: right;">Page 265</p> <p>1 Penninkilampi was because it was the most</p> <p>2 recent. And in my interpretation of the</p> <p>3 meta-analysis, they all show a positive</p> <p>4 correlation, so I just wanted to show the</p> <p>5 most recent.</p> <p>6 Q. And you'll agree with me that</p> <p>7 both meta-analyses -- or the Berge</p> <p>8 meta-analysis shows no increased risk in the</p> <p>9 cohorts, correct?</p> <p>10 A. No increased risk in the</p> <p>11 cohort -- pooled cohorts in the Berge paper.</p> <p>12 Q. And if you consider the Gates</p> <p>13 study as the most recent data available on</p> <p>14 the Nurses Health cohort, you'll agree with</p> <p>15 me there is no evidence at all in the</p> <p>16 prospective cohorts of any increased risk of</p> <p>17 ovarian cancer with talc use. True?</p> <p>18 MS. O'DELL: Object to the</p> <p>19 form.</p> <p>20 A. With the -- the other issues</p> <p>21 with the cohort studies is they ask ever use,</p> <p>22 not current use, length of use, time of use.</p> <p>23 Both the Gates and Gertig and the Houghton,</p> <p>24 the Women's Health Initiative, those studies</p>

<p style="text-align: right;">Page 266</p> <p>1 were not designed to be able to ask those 2 questions and so we can't have that 3 information. And so the limitations of the 4 cohort studies, as -- as I said before, 5 individually, lack of power, not making the 6 correct queries and short follow-up, except 7 the second follow-up of Gates, but that's 8 only one study and it's still not large 9 enough. 10 BY MS. BROWN: 11 Q. That wasn't my question. My 12 question was, if you consider Gates as the 13 most recent data on the Nurses Health cohort, 14 you would agree with me that there is no 15 evidence in any of the prospective studies 16 that shows a statistically significant 17 increased risk of ovarian cancer with 18 perineal task use. True? 19 MS. O'DELL: Object to the 20 form. 21 A. I would say that all the 22 cohorts or cohort studies have the same 23 limitations, not large enough, not asking the 24 right questions, and the only one that</p>	<p style="text-align: right;">Page 268</p> <p>1 that might get at the answer, two of the 2 three by not being designed to answer that 3 question. And so with those caveats, they 4 saw no statistically significant increase in 5 ovarian cancer with talcum powder use 6 reported as ever use. 7 BY MS. BROWN: 8 Q. What's your methodology for -- 9 do you weight the cohorts and the case 10 controls equally in your analysis? 11 MS. O'DELL: Objection to the 12 form. 13 A. I consider all of the evidence, 14 not only the epidemiologic evidence but the 15 causation evidence, the animal in the in 16 vitro data as a whole and formed my opinion. 17 BY MS. BROWN: 18 Q. My question was, do you weight 19 the case controls equally to the cohorts? 20 MS. O'DELL: Objection, asked 21 and answered. 22 You may answer it. 23 A. I look at the entire evidence, 24 all the epidemiologic evidence, as well as</p>
<p style="text-align: right;">Page 267</p> <p>1 doesn't have the shortest -- short follow-up, 2 which it still may not be long enough, is the 3 Nurses Health Study. And with those caveats, 4 there was no statistically significant 5 increase in ovarian cancer in perineal talcum 6 powder use. But given that ovarian cancer's 7 a rare disease and with those caveats, I'm 8 not sure that they're designed to answer the 9 question. So it doesn't say to me there 10 isn't a risk. 11 BY MS. BROWN: 12 Q. But that wasn't my question. 13 My question was just, there is not a single 14 prospective study that shows an increased 15 risk of ovarian cancer with talcum powder 16 use. That's it. It's yes or no. 17 MS. O'DELL: Excuse me. No, 18 it's not. Objection to form. You may 19 answer it in any way you choose, 20 Dr. Wolf. 21 A. The studies are all limited by 22 lack of power, by short follow-up in two of 23 the three and maybe short follow-up in all 24 three, by not asking the correct questions</p>	<p style="text-align: right;">Page 269</p> <p>1 the in vitro and in vivo evidence and made my 2 decision. 3 BY MS. BROWN: 4 Q. Are you not understanding that 5 question? 6 MS. O'DELL: Counselor, you can 7 ask the questions, but she's given you 8 an answer. Just because you don't 9 like the answer doesn't mean she 10 didn't answer the question. 11 MS. BROWN: I've heard the same 12 answer nine times. The question is -- 13 MS. O'DELL: You're asking the 14 question over and over again. 15 MS. BROWN: You're wasting so 16 much time. 17 BY MS. BROWN: 18 Q. My question really just goes to 19 weight. Okay. I understand you marked at 20 the beginning of the deposition weight of the 21 evidence from UpToDate. Do you remember 22 that? 23 A. Yeah. 24 Q. And my question is just, when</p>

<p style="text-align: right;">Page 270</p> <p>1 you did this analysis, did you give equal 2 weight to the cohorts and the case controls? 3 MS. O'DELL: Objection to the 4 preamble, which was incorrect, but you 5 may answer. 6 A. So I weighted every piece of 7 evidence not separating by the type of study, 8 but looking at the strengths and the 9 weaknesses of the study and then together put 10 the evidence to make my opinion. 11 BY MS. BROWN: 12 Q. On page 3 of your report, 13 Doctor, you reference the National Cancer 14 Institute and that's the public health 15 authority's definition of a risk factor. Do 16 you remember that? 17 A. Yes. 18 Q. Fair to say one of the reasons 19 you reference the National Cancer Institute 20 is that you consider it to be a leading 21 public health authority, particularly when it 22 comes to cancer? 23 MS. O'DELL: Object to the 24 form.</p>	<p style="text-align: right;">Page 272</p> <p>1 it. 2 (Deposition Exhibit 18 marked 3 for identification.) 4 BY MS. BROWN: 5 Q. I'm handing you what we've 6 marked as Exhibit 18 to your deposition, 7 which is a printout from the NCI's website, 8 entitled "Ovarian, Fallopian Tube and Primary 9 Peritoneal Cancer Prevention, Health 10 Professional Version." Do you see that, 11 Doctor? 12 A. Yes. 13 Q. And during your work as a 14 gynecologic oncologist, did you look to the 15 NCI for information on how to treat your 16 patients? 17 A. Occasionally, but not 18 routinely. 19 Q. Do you consider the National 20 Cancer Institute to be a reliable source of 21 information on cancer epidemiology? 22 MS. O'DELL: Object to the 23 form. 24 A. I consider it a reliable source</p>
<p style="text-align: right;">Page 271</p> <p>1 A. Specifically here, I reference 2 the National Cancer Institute because of 3 their definition of "associations" versus 4 "causative" risk factors. 5 BY MS. BROWN: 6 Q. And you consider the National 7 Cancer Institute to be a leading public 8 health authority. True? 9 MS. O'DELL: Objection to the 10 form, asked and answered. 11 A. So if you're asking me -- what 12 I think I hear you asking me is why did I 13 reference the National Cancer Institute here, 14 and I referenced it because of this 15 definition. 16 BY MS. BROWN: 17 Q. The National Cancer Institute 18 has reviewed the epidemiology on talc and 19 ovarian cancer, correct? 20 A. That's correct. 21 Q. Did you consider the National 22 Cancer Institute's review of the epidemiology 23 in forming your opinions in this case? 24 A. I read it and I did consider</p>	<p style="text-align: right;">Page 273</p> <p>1 on cancer as a whole. And again, to me 2 it's -- it's one of the pieces of evidence 3 that I might look to to find some 4 information. 5 BY MS. BROWN: 6 Q. And what the National Cancer 7 Institute has done here is evaluate risk 8 factors for ovarian cancer, correct? 9 A. Yes. 10 Q. And, for example, if you look 11 at page 3 of 21, the National Cancer 12 Institute's information begins with factors 13 with adequate evidence of an increased risk 14 of ovarian cancer, correct? 15 A. Yes. 16 Q. Okay. And they list things 17 like endometriosis, correct? 18 A. Yeah. 19 Q. They list hormone replacement 20 therapy. True? 21 A. Yes. 22 Q. And the National Cancer 23 Institute goes on -- and one of the things 24 they do not list as a factor with adequate</p>

<p style="text-align: right;">Page 274</p> <p>1 evidence of an increased risk is talcum 2 powder use, correct? 3 A. That's correct. 4 Q. And what the National Cancer 5 Institute does, is it identifies some area 6 where there's uncertainty in terms of a risk 7 factor, right? 8 A. Yes. 9 Q. And so on page 7 of 21, for 10 example, they identify infertility treatment 11 as an area of uncertainty, correct? 12 A. Yes. 13 Q. And when it comes to perineal 14 talc use, however, the National Cancer 15 Institute has determined that that is a 16 factor with inadequate evidence of an 17 association of the risk of ovarian cancer, 18 correct? 19 MS. O'DELL: Object to the 20 form. 21 A. That's where they placed it in 22 this, yes. 23 BY MS. BROWN: 24 Q. And directing your attention to</p>	<p style="text-align: right;">Page 276</p> <p>1 BY MS. BROWN: 2 Q. Let's reorient ourselves now 3 that we're all on the same page. The 4 National Cancer Institute has classified 5 perineal talc exposure as a factor with 6 inadequate evidence of an association with 7 ovarian cancer, correct? 8 MS. O'DELL: Object to the 9 form. 10 A. It's listed under factors with 11 inadequate evidence, that's correct. 12 BY MS. BROWN: 13 Q. All right. And the National 14 Cancer Institute has factors with adequate 15 evidence, right? 16 A. Yes. 17 Q. We just looked at some. 18 A. Yes. 19 Q. It has factors with uncertain 20 evidence, right? 21 A. Yes. 22 Q. And then it has factors with 23 inadequate evidence, and that includes 24 perineal talc exposure, correct?</p>
<p style="text-align: right;">Page 275</p> <p>1 page 14 of 21, what the National Cancer 2 Institute has concluded is that, "The weight 3 of the evidence does not support an 4 association between perineal talc exposure 5 and an increased risk of ovarian cancer. 6 Results from case-control and cohort studies 7 are inconsistent." 8 Do you see that? 9 MS. O'DELL: Object to the 10 form. Can I just ask where you're 11 reading from? You said page 21. 12 A. Yeah, I don't see that. 13 BY MS. BROWN: 14 Q. Page 14 of 21. 15 MS. O'DELL: We don't have 21. 16 We have 18 pages. 17 A. And page 14 is references. 18 BY MS. BROWN: 19 Q. You have a different version 20 than I do. I'll get you there. Right here, 21 perineal talc exposure. 22 MS. O'DELL: So repeat the 23 question, please. 24 MS. BROWN: Sure.</p>	<p style="text-align: right;">Page 277</p> <p>1 A. That's correct. 2 MS. O'DELL: Object to the 3 form. 4 BY MS. BROWN: 5 Q. And what the National Cancer 6 Institute has determined here is that the 7 weight of the evidence does not support an 8 association between perineal talc exposure 9 and an increased risk of ovarian cancer. 10 A. That's the part I don't -- 11 Q. Results -- 12 A. That's where I'm trying to find 13 -- 14 Q. Let me read it and then I'm 15 going to help you. 16 "Results from case-control and 17 cohort studies are inconsistent." And what 18 I'm reading are the first two lines of the 19 perineal talc exposure section. 20 A. Okay. Okay. What's your 21 question? 22 Q. You, Dr. Wolf, disagree with 23 the National Cancer Institute, correct? 24 A. In this instance, I do.</p>

<p style="text-align: right;">Page 278</p> <p>1 Q. And tell me what methodology 2 you have employed that is different from the 3 weight of the evidence approach, referenced 4 here by the National Cancer Institute. 5 A. So I see that the National 6 Cancer Institute has referenced five 7 articles. So one of the things is that I 8 believe that my review of the entire body of 9 literature is much broader than five 10 articles. And when I look at the most recent 11 article, they do have one article from 2016, 12 which is the Schildkraut data, which is -- 13 they just now at the end of 2018, added that 14 data into theirs. So I would say there's 15 other data that they either didn't have when 16 they did the review or didn't include when 17 they did the review. 18 Q. And in offering that opinion, 19 have you considered, Doctor, that according 20 to this document from the NCI, board members 21 meet monthly to review recently published 22 articles? I'll point you to the section 23 entitled "About This PDQ Summary," at the 24 very end, under the section "Reviewers and</p>	<p style="text-align: right;">Page 280</p> <p>1 opinion. It's my experience that in order to 2 get someone like the National Cancer 3 Institute or some other guideline to suggest 4 something, there's generally a lag of several 5 years between publication of all the 6 literature and when the committee changes 7 something. An example of that is that the 8 Schildkraut paper was published in 2016. It 9 wasn't until the -- end of 2018 that they 10 included it. 11 Q. Dr. Wolf, are you aware of any 12 public health authority that has concluded 13 talcum powder causes ovarian cancer? 14 MS. O'DELL: Object to the 15 form. 16 A. I'm aware that IARC has 17 considered that talc is possibly 18 carcinogenic, that asbestos is carcinogenic. 19 BY MS. BROWN: 20 Q. IARC has not concluded that 21 talc causes ovarian cancer, correct? 22 MS. O'DELL: Object to the 23 form. 24 A. One of the reasons for the</p>
<p style="text-align: right;">Page 279</p> <p>1 Updates," do you see the National Cancer 2 Institute's -- 3 A. I see that. 4 Q. -- board members meeting 5 monthly to review recently published 6 articles, right? 7 A. Yes. 8 MS. O'DELL: Object to the 9 form. 10 BY MS. BROWN: 11 Q. And we see at the very last 12 page, that this particular document was 13 updated a few weeks ago in December 21st of 14 2018? 15 A. Yes. 16 Q. Okay. Do you have any other 17 scientific evidence or methodology that would 18 distinguish your review of the literature 19 from the folks at the National Cancer 20 Institute? 21 A. I'm going to go back to the 22 review of the entire body of the literature. 23 I don't know which articles they look at once 24 a month to make a determination with their</p>	<p style="text-align: right;">Page 281</p> <p>1 review of talc was the concern of ovarian 2 cancer. The fact that they have considered 3 it possibly carcinogenic, to me is an 4 indication that they think it's possibly 5 carcinogenic. 6 BY MS. BROWN: 7 Q. Okay. Let's break that up. 8 Are you aware of any public health authority 9 that agrees with your opinion that talcum 10 powder causes ovarian cancer? 11 MS. O'DELL: Object to the 12 form. 13 A. When I formed my opinion, I 14 looked at all of the data that was available 15 to me, including the data as recent as 16 December. The Canada health assessment, the 17 Taher paper. And I believe that my opinion 18 is based on a greater weight of the evidence 19 than the review of the National Cancer 20 Institute or anything that was available 21 prior to this for a body to review. And if I 22 go back to the talc and IARC study, even with 23 papers only till 2007 and 2008, there was 24 enough evidence that they thought that talc</p>

<p style="text-align: right;">Page 282</p> <p>1 was possibly carcinogenic. 2 BY MS. BROWN: 3 Q. IARC did not consider three of 4 the four prospective cohort studies that 5 showed no increased risk of with talcum 6 powder, true? 7 A. They also did not show -- 8 include any paper that was published after 9 2007. 10 Q. And that would include three of 11 the four prospective cohort studies that 12 showed no risk, right? 13 A. That would include anything 14 published after 2007. 15 Q. And as I understand your 16 testimony as it relates to the National 17 Cancer Institute, you believe that despite 18 the fact that the NCI updated its position as 19 recently as a few weeks ago, they have not 20 reviewed the most latest literature. Is that 21 your testimony? 22 MS. O'DELL: Object to the 23 form. 24 A. I'm saying that I don't know if</p>	<p style="text-align: right;">Page 284</p> <p>1 correct? 2 A. Yes. 3 Q. And IARC has and done -- has 4 and does make that determination as it 5 relates to certain substances, correct? 6 A. Yes. 7 Q. Okay. IARC has not determined 8 that nonasbestiform talc is -- strike that. 9 IARC has not determined that 10 there is sufficient evidence that 11 nonasbestiform talc causes ovarian cancer, 12 correct? 13 MS. O'DELL: Object to the 14 form. 15 A. In the IARC opinion on talc, 16 platy talc, what was assumed to be platy talc 17 without any fibrous contamination, the score 18 was 2B, which is possibly carcinogenic. 19 BY MS. BROWN: 20 Q. And in explaining what IARC 21 means by "possibly carcinogenic," IARC 22 explains that chance, bias or confounding 23 can't be ruled out with reasonable 24 confidence, correct?</p>
<p style="text-align: right;">Page 283</p> <p>1 they have. The most recent literature that 2 they cited is two years old. 3 BY MS. BROWN: 4 Q. And what literature do you 5 think has come out in the next -- in the last 6 two years that IARC -- excuse me, that NCI, 7 despite a publication last month, did not 8 cite? 9 A. Well, I'm going to say both the 10 Berge meta-analysis and the Penninkilampi 11 meta-analysis. 12 Q. IARC has a classification for 13 agents that it believes to be carcinogenic, 14 correct? 15 A. Yes. 16 Q. And that is a group 1, correct? 17 A. That's correct. 18 Q. And IARC has and does make a 19 determination that with some substances, 20 there is sufficient evidence of 21 carcinogenicity. True? 22 A. That's correct. 23 Q. And IARC does have a category 24 that an agent may be probably carcinogenic,</p>	<p style="text-align: right;">Page 285</p> <p>1 A. That's correct. 2 Q. And you think as it relates to 3 IARC's interpretation of epidemiology, 4 they're wrong, right? 5 MS. O'DELL: Object to the 6 form. 7 A. I think that they made the 8 decision that they thought was correct with 9 the information that they had at the time 10 that they made it. 11 BY MS. BROWN: 12 Q. At the time that IARC 13 determined that talc -- nonasbestiform talc 14 had limited evidence of carcinogenic, you 15 believe that was correct? 16 MS. O'DELL: Object to the 17 form. 18 A. I'm going to say again what I 19 said the last time. That I believe that they 20 came to that conclusion based on their review 21 of the literature that they had at the time. 22 BY MS. BROWN: 23 Q. And you understand when IARC 24 does a literature review, it employs the</p>

<p style="text-align: right;">Page 286</p> <p>1 Bradford Hill criteria?</p> <p>2 A. Yes.</p> <p>3 Q. And is that the criteria you</p> <p>4 evaluated the literature with here too?</p> <p>5 A. I actually -- I didn't know</p> <p>6 that's what I was doing until I read the</p> <p>7 Bradford Hill criteria paper myself and</p> <p>8 realized that that's what I do when I review</p> <p>9 the literature and it fit very nicely into</p> <p>10 that criteria. So in my report, yes.</p> <p>11 Q. As a practicing gynecologic</p> <p>12 oncologist, you don't use the epidemiologic</p> <p>13 tool of Bradford Hill criteria; is that fair?</p> <p>14 MS. O'DELL: Object to the</p> <p>15 form.</p> <p>16 A. In my general practice, I don't</p> <p>17 use the Bradford Hill criteria, specifically</p> <p>18 calling it that, but all of those criteria</p> <p>19 are what I use when I evaluate something.</p> <p>20 BY MS. BROWN:</p> <p>21 Q. And you understand that when</p> <p>22 the scientists at IARC evaluate whether or</p> <p>23 not a substance is carcinogenic, they too</p> <p>24 employ the Bradford Hill criteria, correct?</p>	<p style="text-align: right;">Page 288</p> <p>1 right?</p> <p>2 A. Yes.</p> <p>3 Q. Okay. There had been prior</p> <p>4 case-control studies in that same relative</p> <p>5 risk range, correct?</p> <p>6 A. Yes.</p> <p>7 Q. Okay. There was nothing new or</p> <p>8 different about the relative risks shown in</p> <p>9 the most recent case-control studies,</p> <p>10 correct?</p> <p>11 MS. O'DELL: Object to the</p> <p>12 form.</p> <p>13 A. There was additional -- it's</p> <p>14 just confirmation and -- of the same</p> <p>15 information, showing consistency, which is</p> <p>16 one of the tenets of the Bradford Hill</p> <p>17 criteria.</p> <p>18 BY MS. BROWN:</p> <p>19 Q. And, in fact, there's no</p> <p>20 consistency with the findings of the</p> <p>21 prospective studies, right?</p> <p>22 MS. O'DELL: Object to the</p> <p>23 form.</p> <p>24 A. The three cohort studies, I'll</p>
<p style="text-align: right;">Page 287</p> <p>1 A. Yes.</p> <p>2 Q. Okay. Is there something</p> <p>3 different in your mind, about how you</p> <p>4 employed Bradford Hill and how IARC employed</p> <p>5 Bradford Hill?</p> <p>6 A. We had different information.</p> <p>7 Q. And the different information</p> <p>8 you're referring to are some additional</p> <p>9 case-control studies and additional</p> <p>10 meta-analysis?</p> <p>11 A. And cohort studies and in</p> <p>12 inflammatory papers, causation papers that</p> <p>13 weren't published before 2007.</p> <p>14 Q. And you would agree with me</p> <p>15 that --</p> <p>16 MS. O'DELL: Excuse me,</p> <p>17 published before 2007?</p> <p>18 THE WITNESS: Were not. Were</p> <p>19 not.</p> <p>20 BY MS. BROWN:</p> <p>21 Q. You would agree with me that</p> <p>22 the general relative risks seen in the</p> <p>23 additional case-control studies that you're</p> <p>24 referring to, range from about 1.2 to 1.6,</p>	<p style="text-align: right;">Page 289</p> <p>1 say once again, had limitations which I don't</p> <p>2 think allowed us to answer the question about</p> <p>3 talc and ovarian cancer, the size, the</p> <p>4 information about use and the follow-up.</p> <p>5 BY MS. BROWN:</p> <p>6 Q. In your review of the</p> <p>7 literature, did you make the determination</p> <p>8 that the case-control studies asked different</p> <p>9 questions about use than the prospective</p> <p>10 studies?</p> <p>11 A. The case-control studies, many</p> <p>12 of them, asked more specific questions and</p> <p>13 were able to obtain more information.</p> <p>14 Q. Is it -- you state in your</p> <p>15 report that the case-control studies are</p> <p>16 consistent, right?</p> <p>17 A. Yes.</p> <p>18 Q. And they are not -- when you</p> <p>19 look at the case-control studies and the</p> <p>20 cohort studies, though, there is not</p> <p>21 consistency, correct?</p> <p>22 MS. O'DELL: Object to the</p> <p>23 form.</p> <p>24 A. When I look at the</p>

<p style="text-align: right;">Page 290</p> <p>1 epidemiologic data as a whole, as well as all 2 of the rest of the data about causation and 3 the makeup and the chemicals -- the 4 components of talcum powder product, it's 5 all -- it's consistent to me, the weight of 6 the evidence is consistent. 7 BY MS. BROWN: 8 Q. Prospective studies have not 9 found an increased risk, correct? 10 MS. O'DELL: Object to the 11 form. 12 A. Prospective studies have 13 limitations, which I have described multiple 14 times, size, follow-up, length of follow-up, 15 information about talc use. And given those 16 caveats, they have not shown a statistical 17 increase -- significant increase in ovarian 18 cancer. 19 BY MS. BROWN: 20 Q. And you state that -- in your 21 report at page 6, "Overall, the case-control 22 studies are consistent showing a 30-50 23 percent increase in risk of ovarian cancer 24 with talcum powder use."</p>	<p style="text-align: right;">Page 292</p> <p>1 BY MS. BROWN: 2 Q. One of the studies you pointed 3 us to as a high quality study was the Wu 4 study, right? 5 A. Yes. 6 Q. And one of the things that's 7 reported in the Wu study and that you know as 8 a practicing gynecological oncologist, is 9 that the incident rate of ovarian cancer is 10 much lower in African-American women than it 11 is in Whites, correct? 12 A. That's correct. 13 Q. And one of the things that Wu 14 reports is that talcum powder use is much 15 higher in African-American women than in 16 Whites, correct? 17 A. That's correct. 18 Q. And how do you reconcile those 19 two facts, Doctor, that the population that 20 has the highest use of talcum powder has the 21 lowest incidence of ovarian cancer? 22 A. Well, if we could pull up the 23 Wu study, I don't recall how many 24 African-American women were in that study,</p>
<p style="text-align: right;">Page 291</p> <p>1 Do you see that? 2 A. Yes. 3 Q. Okay. And are you referring to 4 ever use and ovarian cancer? 5 A. I'm referring to however it was 6 reported in the case-control studies. 7 Q. Have you done an analysis of 8 the case-control studies to see what the 9 finding is when the same question is asked? 10 A. So I, personally, haven't. 11 That's where I point to the meta-analysis, to 12 look at specific questions about how -- which 13 questions were asked. 14 Q. And are you aware that when you 15 look at the ever used question in the 16 case-control studies, the majority of those 17 studies do not show an increased risk? 18 MS. O'DELL: Object to the 19 form. 20 A. Which is one of the limitations 21 of prospective studies because they only 22 asked ever used without details about how 23 often, how frequent, how long. 24</p>	<p style="text-align: right;">Page 293</p> <p>1 but the number was, I believe, small. 2 Q. Welt, wasn't this one of the 3 studies you identified as being particularly 4 high quality? 5 A. Yes. 6 Q. Okay. 7 A. Just because it didn't have a 8 lot of African-American patients doesn't make 9 it -- doesn't make it not a good study; it's 10 just a fact. 11 Q. But your critique of the cohort 12 studies is that they didn't have enough 13 people, right? 14 A. For a primary analysis. This 15 is a secondary point of African-Americans. 16 When you look at the Schildkraut study, which 17 was specifically for African-Americans, there 18 was a significant increase. 19 Q. The primary focus of the Wu 20 paper was whether African-American women had 21 an increased risk of talcum powder use. 22 A. This is not the right Wu paper. 23 MS. O'DELL: Let me get it for 24 you.</p>

<p style="text-align: right;">Page 294</p> <p>1 THE WITNESS: I don't have the 2 right Wu paper. 3 MS. O'DELL: Just a second 4 here. 5 BY MS. BROWN: 6 Q. Is that what you're looking 7 for, Doctor? We can mark it. 8 A. Yes, this is the one. 9 MS. O'DELL: Thank you. 10 BY MS. BROWN: 11 Q. Let me just stick 19 on that 12 for you. 13 (Deposition Exhibit 19 marked 14 for identification.) 15 BY MS. BROWN: 16 Q. Doctor, I have marked for the 17 record as Exhibit 19, the Wu article we've 18 been discussing. And my question for you 19 here is how -- what methodology you employed 20 to reconcile some of the facts that are 21 reported in Wu; namely, that African-American 22 women had the lowest incidence of ovarian 23 cancer and the highest incidence of talcum 24 powder use?</p>	<p style="text-align: right;">Page 296</p> <p>1 how many were African-American. There were 2 128. 3 BY MS. BROWN: 4 Q. 1700? Are you looking at Wu? 5 A. Yes. 6 MS. O'DELL: Her testimony was 7 not -- was 128. 8 A. 128 African-Americans. 9 BY MS. BROWN: 10 Q. I misheard you. 11 A. 1700 women total. Of those, 12 128 were African-American, most of them were 13 non-Hispanic/White. So that study isn't 14 powered to answer the question about 15 African-Americans and the relationship of 16 talcum powder and ovarian cancer. It's not 17 enough. 18 Q. We're missing each other. I 19 want you to put this study aside. I'm asking 20 you a question about facts that are reported 21 here that you know as a gynecologic 22 oncologist. One of the those facts, you'll 23 agree with me, is that African-American women 24 have a lower incidence of ovarian cancer than</p>
<p style="text-align: right;">Page 295</p> <p>1 A. So the title of the Wu paper 2 says, "African-Americans and Hispanics Remain 3 at Lower Risk of Ovarian Cancer," but when 4 you read the purpose of this study, it was to 5 elucidate risk factors for disease and to 6 evaluate differences across -- across 7 Hispanics. 8 Q. Sure. 9 A. But not specifically 10 African-Americans. 11 Q. No, Doctor, I'm using the 12 information reported in this study that you 13 identified as high quality to pose a 14 commonsense question for you. Which is that, 15 how do you reconcile the idea that the 16 population that has the lowest amount of 17 ovarian cancer has the highest amount of 18 powder use? 19 MS. O'DELL: Object to the 20 form. She's answered your question 21 previously. 22 But you may respond. 23 A. So the reason I wanted to look 24 at this paper was to see, of the 1700 women,</p>	<p style="text-align: right;">Page 297</p> <p>1 white women, right? 2 MS. O'DELL: Object to the 3 form. 4 A. Yes. 5 BY MS. BROWN: 6 Q. Okay. And one of the things 7 you know from reading Wu, because they report 8 it, is that African-American women are 9 traditionally higher talcum powder users than 10 white women, right? 11 A. Yes. 12 Q. And so what methodology have 13 you employed in opining that talcum powder 14 causes ovarian cancer to explain this 15 difference? 16 A. Because when I look at the 17 Schildkraut study, which was a larger study 18 of African-American women, I believe, I have 19 to look at the numbers, there was a 20 statistical significant difference increase 21 in ovarian cancer in women -- 22 African-American women. 23 Q. Right. But you know the annual 24 incidence of ovarian cancer in</p>

<p style="text-align: right;">Page 298</p> <p>1 African-American women is historically and 2 remains much lower? 3 A. Yes. 4 MS. O'DELL: Objection, form, 5 asked and answered. 6 BY MS. BROWN: 7 Q. I mean, do you understand what 8 I'm saying here? How do you reconcile that? 9 If talcum powder use really did cause ovarian 10 cancer, why is the population that uses 11 talcum powder the most, the population that 12 gets ovarian cancer the least? 13 MS. O'DELL: Objection to the 14 form, asked and answered. 15 You may answer. 16 A. Okay. So there are multiple 17 risk factors for ovarian cancer. If 18 African-American women have some protection 19 from getting ovarian cancer, for whatever 20 reason they don't get it as often, it doesn't 21 matter what the risk factor is. If you look 22 at an individual risk factor in that 23 population alone and it increases their risk 24 over their baseline, it's a risk factor.</p>	<p style="text-align: right;">Page 300</p> <p>1 MS. BROWN: Your objection is 2 to form. 3 MS. O'DELL: Fine. I think 4 Judge Pisano would understand my 5 objection. And what I've objected to 6 is the fact that you've asked the same 7 question ten times, often with facial 8 expressions, with gestures toward the 9 witness, which is inappropriate under 10 the protocol. But I'm not being 11 critical of that. I'm pointing it out 12 for the record. So if you've got a 13 question, ask it, the doctor will 14 answer it to the best of her ability 15 as she's been doing. But to keep 16 berating the witness with the same 17 question is really not appropriate. 18 MS. BROWN: Counsel, your 19 objection under the Federal Rules is 20 to form. If there's something you'd 21 like to discuss off the record, I'd be 22 happy to do that. We need to move on 23 here. We're wasting a lot of time. 24 If Dr. Wolf would answer the question,</p>
<p style="text-align: right;">Page 299</p> <p>1 BY MS. BROWN: 2 Q. What methodology have you 3 employed to explain the fact that a 4 population that uses this product the most 5 gets ovarian cancer the least? How do you 6 reconcile that? 7 MS. O'DELL: Objection, asked 8 and answered. You've asked the same 9 question ten times. The doctor -- 10 MS. BROWN: When I get an 11 answer, I'll be happy to move on. 12 MS. O'DELL: Excuse me, I'm 13 not -- you want an answer you want. 14 She's given you an answer to the 15 question. 16 MS. BROWN: Counsel, form. 17 MS. O'DELL: Let me finish. 18 MS. BROWN: But it's form. 19 Federal Rules. 20 MS. O'DELL: I can say what I'm 21 going to say. 22 MS. BROWN: Well, we can get 23 the judge. 24 MS. O'DELL: Fine.</p>	<p style="text-align: right;">Page 301</p> <p>1 I would be happy to move on. 2 MS. O'DELL: She's answered 3 your question. 4 You may answer it again -- 5 BY MS. BROWN: 6 Q. Please answer it again, 7 Dr. Wolf. 8 MS. O'DELL: -- Dr. Wolf, and 9 feel free to give the same answer if 10 it's the same answer. 11 A. My understanding of your 12 question is, how do -- how do I -- given that 13 African-American women are less likely to get 14 ovarian cancer and given that they use more 15 talcum powder, why don't we see more ovarian 16 cancer from talcum powder in African-American 17 women? Is that what you're asking? 18 BY MS. BROWN: 19 Q. No, Doctor. Have you 20 considered that as a factor that your opinion 21 might not be right? 22 MS. O'DELL: Object to the 23 form. 24 A. My opinion is based on a study</p>

<p style="text-align: right;">Page 302</p> <p>1 of African-American women who use or did not 2 use talcum powder and ovarian cancer in the 3 case-control study of Schildkraut, which was 4 the most recent paper mentioned in the NCI 5 update on talc and ovarian cancer. 6 BY MS. BROWN: 7 Q. And do you have Schildkraut in 8 front of you? We marked it as Exhibit 19. 9 A. I have it. 10 Q. 15, I'm sorry. One of the 11 things that Schildkraut attempted to address 12 was recall bias as a result of talcum powder 13 lawsuits, correct? 14 MS. O'DELL: Object to the 15 form. 16 BY MS. BROWN: 17 Q. And I'll direct you, Doctor, 18 to -- 19 A. Because I'm looking at the 20 primary endpoint of the study and the primary 21 endpoint of the study was to analyze the 22 relationship of genital powder and nongenital 23 powder exposure in African-American women in 24 a case-control study of invasive ovarian</p>	<p style="text-align: right;">Page 304</p> <p>1 Schildkraut endeavored to do was to determine 2 whether the class action lawsuits in 2014 3 created recall bias in the women who were 4 diagnosed with ovarian cancer? 5 A. Okay. 6 MS. O'DELL: Object to the 7 form. 8 BY MS. BROWN: 9 Q. Do you recall that? 10 A. I do. 11 Q. And do you think that that is 12 an important thing for an author of a 13 case-control study to analyze? 14 A. I do. 15 Q. And you recall that when 16 Schildkraut analyzed folks who had been 17 interviewed prior to the lawsuits in 2014 and 18 after the lawsuits in 2014, there was a 19 significant difference in the number of 20 people diagnosed with ovarian cancer who 21 reported talcum powder use. Do you remember 22 that? 23 A. Well, I'm looking for that -- I 24 see in the query in the table, but I don't</p>
<p style="text-align: right;">Page 303</p> <p>1 cancer -- epithelial ovarian cancer in 2 African-American women. 3 Q. In forming your opinions in 4 this case, did you consider the subgroup 5 analysis that Schildkraut conducted on women 6 who were interviewed before and after the 7 class action lawsuits began in 2014? 8 MS. O'DELL: Objection to form. 9 A. I'm looking for those results 10 in the paper. 11 BY MS. BROWN: 12 Q. In forming your opinion in the 13 case, did you consider those? 14 MS. O'DELL: Object to the 15 form. 16 A. I need to remind myself what 17 those results were. 18 BY MS. BROWN: 19 Q. Okay. I'll direct you to Table 20 2 of the paper, which in my copy is 1414. 21 A. I see that. And what was your 22 question? 23 Q. Do you recall, based on your 24 review of this paper, that one of the things</p>	<p style="text-align: right;">Page 305</p> <p>1 see a statistical significant difference, and 2 that's what I'm looking for in the results, 3 and I don't see it. If you know where it is, 4 you can point it out to me. 5 Q. Here's what I want to ask you 6 about. In two thousand -- you looked at this 7 table, right, you considered this subgroup 8 analysis? 9 A. Yes. 10 Q. Because you would agree with 11 Schildkraut, that recall bias, particularly 12 where there's been a lot of lawsuit 13 attention, is important to investigate, 14 correct? 15 MS. O'DELL: Object to the 16 form. 17 A. Recall bias is always something 18 to investigate. 19 BY MS. BROWN: 20 Q. But it's -- it could be 21 particularly acute in the context of a lot of 22 media attention due to lawsuits, right? 23 MS. O'DELL: Object to the 24 form.</p>

<p style="text-align: right;">Page 306</p> <p>1 A. Something to look at. 2 BY MS. BROWN: 3 Q. And one of the things 4 Schildkraut actually did in its analysis, was 5 it controlled for the recall bias -- it tried 6 to control for that recall bias, right? 7 A. Well, it looked at it, yes. 8 Q. And the reason it felt it had 9 to control -- he felt -- she felt she had to 10 control for it was because she found a 11 statistically significant effect modification 12 by year of interview, right? 13 MS. O'DELL: Object to the 14 form. 15 BY MS. BROWN: 16 Q. And that conclusion is at the 17 end of the results -- second paragraph of the 18 results on page 1413. Do you recall 19 reviewing that? 20 A. I don't see anything that says 21 about the year of -- year of review. 22 Q. The second paragraph in the 23 results section of the paper concludes, "A 24 test for effect modification by year of</p>	<p style="text-align: right;">Page 308</p> <p>1 A. What I'm reading, it says, "In 2 2014 and later, we observed an increase in 3 any powder use. Although increased, these 4 exposure prevalences were not statistically 5 significant for those interviewed before 6 2014." 7 BY MS. BROWN: 8 Q. Did you consider the author's 9 conclusion that there was a statistically 10 significant effect modification by year of 11 interview when you reviewed this paper? 12 MS. O'DELL: Object to the 13 form. 14 A. Yes. But -- yes, but this does 15 not clarify why that would be, because there 16 was no statistical difference in reported 17 use. 18 BY MS. BROWN: 19 Q. And what happened, Doctor, if 20 you look at Table 2, is that prior to -- 21 those folks who were interviewed about 22 whether or not they had used powder before 23 2014, 34 percent of the controls reported it 24 and about 36 and a half percent of the cases</p>
<p style="text-align: right;">Page 307</p> <p>1 interview was statistically significant with 2 P equaling 0.005." 3 Do you see that? 4 MS. O'DELL: Object to the 5 form. 6 A. Okay. "Although increased, 7 exposure prevalences were not significantly 8 different from those interviewed before 9 2014." 10 So the exposure was no 11 different. 12 BY MS. BROWN: 13 Q. Well, it was and the authors 14 concluded that they couldn't rule it out as 15 inflating the odds ratios, didn't they? 16 MS. O'DELL: Objection, form. 17 A. It was not statistically 18 different. 19 BY MS. BROWN: 20 Q. They found a statistically 21 significant effect modification. Do you see 22 that conclusion? 23 MS. O'DELL: Object to the 24 form.</p>	<p style="text-align: right;">Page 309</p> <p>1 reported it, right? 2 MS. O'DELL: Object to the 3 form. 4 BY MS. BROWN: 5 Q. Do you see me -- 6 A. I see that. 7 Q. And then when they stratified 8 by interview date and they asked people after 9 the lawsuits if they had used powder, the 10 folks who did not get ovarian cancer reported 11 it at about the same percentage, right, 34.4 12 percent? 13 MS. O'DELL: Object to the 14 form. 15 A. Yes, 30 and 42 percent. 16 BY MS. BROWN: 17 Q. Well, 34 and 34.4. 18 A. Oh, I'm sorry. After -- 19 Q. You see that? Any genital use. 20 A. Yes. 21 Q. Okay. So 34 percent of people 22 who did not have ovarian cancer reported talc 23 use before 2014, right? And 34.4 percent of 24 people who did not have ovarian cancer</p>

<p style="text-align: right;">Page 310</p> <p>1 reported talc use after 2014, right?</p> <p>2 A. Yes.</p> <p>3 Q. That's about exactly the same,</p> <p>4 correct?</p> <p>5 A. Yes. Yes.</p> <p>6 Q. But as it relates to folks who</p> <p>7 unfortunately were diagnosed with ovarian</p> <p>8 cancer, those who were asked that question</p> <p>9 before 2014, 36.5 percent of them reported</p> <p>10 talc use, right?</p> <p>11 A. (Nods head.)</p> <p>12 Q. And then that number shot up to</p> <p>13 51.5 percent after 2014, right?</p> <p>14 MS. O'DELL: Object to the</p> <p>15 form.</p> <p>16 A. I see that.</p> <p>17 BY MS. BROWN:</p> <p>18 Q. And what the authors conclude</p> <p>19 on page 1416, is that although -- because</p> <p>20 of -- this is -- I'm reading from 1416, the</p> <p>21 first full sentence of the second column.</p> <p>22 "Because of publicity, we adjusted for date</p> <p>23 of interview. However, there is still a</p> <p>24 possibility that recall bias may have caused</p>	<p style="text-align: right;">Page 312</p> <p>1 correct?</p> <p>2 A. Yes.</p> <p>3 Q. And what method did you employ</p> <p>4 to assure yourself that those results were</p> <p>5 not confounded by recall bias?</p> <p>6 A. By reviewing the methods and</p> <p>7 analyzing the methods, just like we did with</p> <p>8 this paper.</p> <p>9 Q. And what did you find in the Wu</p> <p>10 article, for example, that leads you to</p> <p>11 believe that the findings were not the</p> <p>12 subject of recall bias?</p> <p>13 A. I would have to read the Wu</p> <p>14 materials and methods again. If you'd like</p> <p>15 me to, I will.</p> <p>16 Q. Well, did you undertake an</p> <p>17 analysis of the post-2014 papers with an</p> <p>18 effort to investigate whether the findings</p> <p>19 were subject to recall bias? That's my</p> <p>20 question.</p> <p>21 MS. O'DELL: Object to the</p> <p>22 form. She's answered your question.</p> <p>23 A. When I reviewed all of the</p> <p>24 papers, that was one of the things -- bias is</p>
<p style="text-align: right;">Page 311</p> <p>1 some inflation of the OR" -- or the odds</p> <p>2 ratios, correct?</p> <p>3 A. But if you read the rest of</p> <p>4 that study, "Our data do not support that</p> <p>5 recall bias alone before or after 2014 would</p> <p>6 account for the associations with body powder</p> <p>7 and epithelial ovarian cancer. It was not</p> <p>8 statistically significantly different."</p> <p>9 Q. Did you consider the author's</p> <p>10 finding as it related to recall bias in</p> <p>11 evaluating the Schildkraut paper?</p> <p>12 A. I did.</p> <p>13 Q. And would you agree that</p> <p>14 particularly given the media attention to</p> <p>15 lawsuits beginning in 2014, that recall bias</p> <p>16 is a concern of the case-control studies?</p> <p>17 A. If there was a statistically</p> <p>18 significant change and difference in change</p> <p>19 in reporting, it might -- it might be</p> <p>20 something to consider, but there was not.</p> <p>21 Q. All of the studies that you</p> <p>22 identified -- or the three studies you</p> <p>23 identified as being "high quality," were all</p> <p>24 published after the lawsuits began in 2014,</p>	<p style="text-align: right;">Page 313</p> <p>1 one of the things you wanted to -- I wanted</p> <p>2 to look at and I looked at. And if you're</p> <p>3 asking me specifically about this one, you</p> <p>4 know, I can read through it and tell you what</p> <p>5 it was specifically.</p> <p>6 BY MS. BROWN:</p> <p>7 Q. No, I don't need specifics of</p> <p>8 the study. I was asking for your</p> <p>9 methodology. How do you -- how -- when you</p> <p>10 evaluate a paper post-2014, how do you --</p> <p>11 what methodology do you employ to make sure</p> <p>12 that the results are not inflated by the</p> <p>13 lawsuit media attention?</p> <p>14 MS. O'DELL: Objection to form,</p> <p>15 asked and answered.</p> <p>16 A. In all of the studies, I review</p> <p>17 the methodology, I look for any evidence of</p> <p>18 bias, recall bias or anything else. Not</p> <p>19 every study compared before 2014 and after</p> <p>20 2014. This one did. They found no</p> <p>21 significant difference in recall of use.</p> <p>22 BY MS. BROWN:</p> <p>23 Q. They concluded that an</p> <p>24 inflation of the odds ratio due to recall</p>

<p style="text-align: right;">Page 314</p> <p>1 bias could not be ruled out. Did you 2 consider that? 3 A. When you -- when I look at 4 their methods -- that was their -- that was 5 their interpretation of the data as a 6 possible explanation. When I look at the 7 results, the results showed that there was no 8 statistically significant difference between 9 before and after 2014. 10 Q. And so as it relates to their 11 conclusion, do you discount that? 12 MS. O'DELL: Object to the 13 form. 14 A. When I read conclusions of this 15 paper or any paper, these are -- these are 16 possible explanations. It's not facts. The 17 facts are the results. 18 BY MS. BROWN: 19 Q. And did you discount the 20 statistically significant effect modification 21 by interview year and date? 22 A. No. 23 MS. O'DELL: Object to form. 24 A. That was statistically</p>	<p style="text-align: right;">Page 316</p> <p>1 in young adulthood; is that right? 2 MS. O'DELL: Object to the 3 form. 4 A. I assumed they started using 5 powder sometime after menarche. 6 BY MS. BROWN: 7 Q. Okay. And the average age of 8 menarche is 12; is that right? 9 A. I think it's ten in the US now. 10 I know. 11 Q. My gosh. Good thing I have 12 boys. You say in your report that the 13 latency period for ovarian cancer is at least 14 20 years, correct? 15 A. Yes. 16 Q. Okay. And you would agree with 17 me that most of the prospective studies 18 enrolled women in their sort of mid -- 19 middle-age women to postmenopause women, so 20 women in their 40s and 50s, correct? 21 A. Yes. 22 Q. And so if those women began 23 using powder, as IARC concludes, in young 24 adulthood, they would have been approximately</p>
<p style="text-align: right;">Page 315</p> <p>1 significant. 2 BY MS. BROWN: 3 Q. You considered that? 4 A. Yes. 5 MS. BROWN: Let's take a break. 6 THE VIDEOGRAPHER: Going off 7 the record. The time is 3:24 p.m. 8 (Recess taken from 3:24 p.m. to 9 3:40 p.m.) 10 THE VIDEOGRAPHER: Back on the 11 record. The time is 3:40 p.m. 12 BY MS. BROWN: 13 Q. Dr. Wolf, in evaluating the 14 talc epidemiology, do you agree with IARC 15 that the use of talcum powder for feminine 16 hygiene is acquired in young adulthood? 17 Approximately 80 percent of the women who use 18 powder start before the age of 25? Do you 19 agree with that? 20 A. I'm going to agree with you on 21 adulthood. 22 Q. And so in evaluating the 23 epidemiology here, you assumed that most 24 folks in these studies started using powder</p>	<p style="text-align: right;">Page 317</p> <p>1 anywhere from, you know, ten- to 20- to 2 30-year users at the time they enrolled in 3 the study, correct? 4 MS. O'DELL: Object to the 5 form. 6 A. I don't think we know that for 7 sure because they weren't asked when they 8 started or how long they used it. 9 BY MS. BROWN: 10 Q. Did you consider that WHI did 11 do a subgroup analysis on women who used 12 powder for more than 20 years? 13 A. Yes. 14 Q. And what was the finding of 15 that, Doctor? 16 A. There was not a statistically 17 significant increased risk in those women. 18 Q. How did -- how does your 19 understanding of when powder use generally 20 begins in women and the latency period for 21 ovarian cancer, how does that inform your 22 critique that the prospective studies are not 23 long enough to detect ovarian cancer? 24 MS. O'DELL: Object to the</p>

<p style="text-align: right;">Page 318</p> <p>1 form.</p> <p>2 A. The only thing that prospective</p> <p>3 studies looked at was one point in time, so</p> <p>4 we don't know how long. You can't -- you</p> <p>5 can't make a determination of a study based</p> <p>6 on thinking that's how long they used it.</p> <p>7 BY MS. BROWN:</p> <p>8 Q. Well, if the prospective study</p> <p>9 asked a 55-year-old if she was a talcum</p> <p>10 powder user, you would agree with me, based</p> <p>11 on your understanding of when people began</p> <p>12 using talcum powder, that she likely started</p> <p>13 in young adulthood, right?</p> <p>14 MS. O'DELL: Objection to form.</p> <p>15 A. I think the question was often</p> <p>16 ever use, and so I don't know if she started</p> <p>17 in young adulthood and did it for 20 or 30</p> <p>18 years, or she started at middle age and did</p> <p>19 it later, or she lived in the North and</p> <p>20 didn't use it and then moved to the South and</p> <p>21 started using it because she was hotter,</p> <p>22 because sweating is often a reason that</p> <p>23 people -- women give for using powder, and</p> <p>24 men. I don't know that I can infer that from</p>	<p style="text-align: right;">Page 320</p> <p>1 the witness has it.</p> <p>2 MS. O'DELL: Do you have the</p> <p>3 right one?</p> <p>4 THE WITNESS: I don't have</p> <p>5 page 305.</p> <p>6 MS. O'DELL: She has 100 C, not</p> <p>7 2010.</p> <p>8 THE WITNESS: I have 100 C.</p> <p>9 BY MS. BROWN:</p> <p>10 Q. Didn't we mark this?</p> <p>11 A. It's hiding. Here it is. Here</p> <p>12 it is.</p> <p>13 MS. O'DELL: Yeah, sorry,</p> <p>14 excuse me.</p> <p>15 BY MS. BROWN:</p> <p>16 Q. And so my question was, to</p> <p>17 orient you, Doctor, I'll direct you to</p> <p>18 Section B, third paragraph, the conclusion</p> <p>19 there, that, "The use of talcum powder for</p> <p>20 feminine hygiene is acquired in young</p> <p>21 adulthood, since 80 percent of women who use</p> <p>22 body powder start before the age of 25. IARC</p> <p>23 cites Harlow and Weiss from 1989."</p> <p>24 Do you agree with that?</p>
<p style="text-align: right;">Page 319</p> <p>1 the data in the study.</p> <p>2 BY MS. BROWN:</p> <p>3 Q. Well, IARC has stated that 80</p> <p>4 percent of women who use body powder start</p> <p>5 before the age of 25. Do you agree with</p> <p>6 that?</p> <p>7 MS. O'DELL: If you need to</p> <p>8 look at that study --</p> <p>9 A. Yeah, I need to look at the</p> <p>10 IARC paper.</p> <p>11 BY MS. BROWN:</p> <p>12 Q. We have marked that as</p> <p>13 Exhibit 13. And it's page 305.</p> <p>14 A. I don't see that one, because</p> <p>15 it's a thick one. It's not here.</p> <p>16 Q. Did we mark IARC --</p> <p>17 MS. O'DELL: Here we go.</p> <p>18 A. Here we go.</p> <p>19 MS. O'DELL: What page?</p> <p>20 MS. BROWN: 305.</p> <p>21 MS. O'DELL: Actually, this is</p> <p>22 the wrong one. I'm assuming you're</p> <p>23 looking at 2010?</p> <p>24 MS. BROWN: Yeah. She had --</p>	<p style="text-align: right;">Page 321</p> <p>1 A. Yes.</p> <p>2 Q. Okay. And you know that the</p> <p>3 Nurses Health Study enrolled women -- middle</p> <p>4 age women, correct?</p> <p>5 A. Postmenopausal women.</p> <p>6 Q. Ages 30 to 55 in 1976, and that</p> <p>7 would have been ages 36 to 61 in 1982, right?</p> <p>8 A. I thought we were talking about</p> <p>9 the Women's Health Initiative. We're talking</p> <p>10 about the Nurses Health Study?</p> <p>11 Q. Well, one question is Nurses</p> <p>12 Health. We'll go to Women's Health next.</p> <p>13 A. All right.</p> <p>14 Q. And so if most women, majority</p> <p>15 80 percent, start at age 25, many of the</p> <p>16 women enrolled in Nurses Health, for example,</p> <p>17 would have already been using talcum powder</p> <p>18 for decades prior to enrollment in that</p> <p>19 study, correct?</p> <p>20 A. I'm just adding up. So they</p> <p>21 would have been aged 36 to 61.</p> <p>22 Q. Correct.</p> <p>23 A. So some of them might have,</p> <p>24 yes.</p>

<p style="text-align: right;">Page 322</p> <p>1 Q. Well, at least everyone who was 2 enrolled would have been using it for at 3 least ten years, right? 4 MS. O'DELL: Object to the 5 form. 6 A. We don't know that. We're 7 inferring from another paper where it was 8 reported that 80 percent of women use it 9 before age 25, that women who were asked did 10 they ever use it had been using it their 11 whole -- since age 25. 12 BY MS. BROWN: 13 Q. And in evaluating the 14 epidemiology, did you make that conclusion? 15 MS. O'DELL: Object to the 16 form. 17 A. I didn't make that inference 18 because it wasn't clear in the paper, that 19 that was something that was considered or 20 asked about how long they used it. 21 BY MS. BROWN: 22 Q. When you evaluated the Nurses 23 Health Study, did you believe that the women 24 ages 36 to 61, who were asked about talcum</p>	<p style="text-align: right;">Page 324</p> <p>1 BY MS. BROWN: 2 Q. In evaluating the Women's 3 Health Initiative data, you did consider the 4 data that they had on folks who reported 5 using powder for more than 20 years, right? 6 A. Yes. 7 Q. And you know that that resulted 8 in a nonstatistically significant finding, 9 correct? 10 A. That's correct. 11 Q. And so your critique, as it 12 relates to the fact that the cohorts were not 13 long enough, does not relate to the Women's 14 Health Initiative; is that right? 15 MS. O'DELL: Object to the 16 form. 17 A. My critique does relate to the 18 Women's Health Initiative, because even if 19 they were using it for 20 -- more than 20 20 years -- let me step back and say this, so 21 that it's clear in my mind. 22 I don't know at what point in 23 their use that 20 years till cancer occurs 24 starts. I don't know if it's after one dose,</p>
<p style="text-align: right;">Page 323</p> <p>1 powder use in 1982, had just begun using 2 talcum powder? 3 A. I don't know have any 4 information -- 5 MS. O'DELL: Object to form. 6 A. -- to confirm or dispute that. 7 BY MS. BROWN: 8 Q. Did you consider the 9 information from IARC, that most women who 10 use talcum powder start at age 25? 11 MS. O'DELL: Object to the 12 form. 13 A. But in the Nurses Health Study, 14 I don't have that information about when they 15 started. 16 BY MS. BROWN: 17 Q. My question was, did you 18 consider the information from IARC, that most 19 women who use talcum powder start at age 25? 20 MS. O'DELL: Object to the 21 form. 22 A. And my answer is the two are 23 not -- I can't draw a conclusion from one to 24 the other.</p>	<p style="text-align: right;">Page 325</p> <p>1 if it's after a year, if it's after five 2 years, if it's after ten years. When does 3 that zero point go to 20 years, and I don't 4 think there's any way we can know that. 5 BY MS. BROWN: 6 Q. Is what you're saying, Doctor, 7 you don't know how much talcum powder 8 exposure is needed to cause ovarian cancer? 9 MS. O'DELL: Object to the 10 form. 11 A. I'm saying that in an 12 individual patient, it might take a different 13 amount and different time for ovarian cancer 14 to develop as a result of talcum powder use. 15 And so even guessing when the women started 16 doesn't give me enough information to know 17 when that lag period started or if that lag 18 period is 20 years or if it might be up to 40 19 years, which is reported in some studies as 20 how long it takes to develop cancer from a 21 toxin. 22 BY MS. BROWN: 23 Q. In your opinion as a 24 gynecologic oncology, what's the latency</p>

<p style="text-align: right;">Page 326</p> <p>1 period for ovarian cancer?</p> <p>2 A. I'm going to answer you the way</p> <p>3 I answer all of my patients. And I don't</p> <p>4 think we know for sure. The only data that</p> <p>5 we actually have that I'm aware of is the</p> <p>6 Hiroshima data, that 15 to 20 years after the</p> <p>7 atomic bomb was dropped, but when patients</p> <p>8 come to me and they say, "How long had I had</p> <p>9 this cancer? When did this cancer develop?"</p> <p>10 Well, we never sit and watch somebody from</p> <p>11 the time they have the first hint of cancer,</p> <p>12 to know how long it takes to develop, or</p> <p>13 somebody who has a precancerous lesion,</p> <p>14 although there isn't a good one for ovarian</p> <p>15 cancer, so we don't know the answer to that.</p> <p>16 Q. So in fact, Doctor, the latency</p> <p>17 period for ovarian cancer could be even</p> <p>18 shorter than 15 or 20 years?</p> <p>19 MS. O'DELL: Objection to form.</p> <p>20 A. I don't know the latency period</p> <p>21 for sure. The only data that I -- you know,</p> <p>22 that is clear is the data after the bombs,</p> <p>23 and I think, could it be shorter, could it be</p> <p>24 longer...</p>	<p style="text-align: right;">Page 328</p> <p>1 dose versus somebody else.</p> <p>2 For instance, the</p> <p>3 African-Americans who have, genetically, a</p> <p>4 low -- it appears a low risk of ovarian</p> <p>5 cancer, there are individual differences in</p> <p>6 patients' intrinsic risk as well as any</p> <p>7 external risks.</p> <p>8 BY MS. BROWN:</p> <p>9 Q. Were you aware of any</p> <p>10 scientific article that has attempted to</p> <p>11 quantify the latency period between first</p> <p>12 exposure to perineal use of talc and the</p> <p>13 development of ovarian cancer?</p> <p>14 MS. O'DELL: Object to the</p> <p>15 form.</p> <p>16 A. As far as my understanding, we</p> <p>17 don't have that information. And I think</p> <p>18 from my interpretation of reading the papers,</p> <p>19 it might be hard to confirm or deny that.</p> <p>20 BY MS. BROWN:</p> <p>21 Q. Would you agree that one of the</p> <p>22 limitations of the talc epidemiology is the</p> <p>23 self-reported nature of talcum powder use and</p> <p>24 exposure?</p>
<p style="text-align: right;">Page 327</p> <p>1 BY MS. BROWN:</p> <p>2 Q. We don't know. Fair?</p> <p>3 MS. O'DELL: Objection to form.</p> <p>4 A. I think it's variable.</p> <p>5 BY MS. BROWN:</p> <p>6 Q. Have you evaluated the</p> <p>7 case-control data and come to an opinion on</p> <p>8 the amount of time between exposure and</p> <p>9 development of ovarian cancer based on the</p> <p>10 case-control data?</p> <p>11 MS. O'DELL: Object to the</p> <p>12 form.</p> <p>13 A. So I'm going to answer the same</p> <p>14 way, in that, I'm not sure that I can, based</p> <p>15 on an individual person's response to the</p> <p>16 powder and -- the talcum powder product and</p> <p>17 dosage, to be able to say what the latency</p> <p>18 period is.</p> <p>19 If I have someone who has some</p> <p>20 other intrinsic sensitivity risk for</p> <p>21 developing ovarian cancer or risk for</p> <p>22 developing ovarian cancer if they're exposed</p> <p>23 to talcum powder product, it might not take</p> <p>24 as long; it might not take the same amount of</p>	<p style="text-align: right;">Page 329</p> <p>1 MS. O'DELL: Objection to form.</p> <p>2 A. Anytime there's self-reporting</p> <p>3 of anything, it's one thing to consider as a</p> <p>4 potential bias in the study.</p> <p>5 BY MS. BROWN:</p> <p>6 Q. In your review of the talc</p> <p>7 epidemiology, did you find evidence of a dose</p> <p>8 response?</p> <p>9 A. Some of the papers do show</p> <p>10 evidence of a dose response and some do not.</p> <p>11 Q. Do you agree with the FDA in</p> <p>12 its 2014 denial of the citizen's petition</p> <p>13 that dose response evidence is lacking?</p> <p>14 MS. O'DELL: Object to the</p> <p>15 form.</p> <p>16 A. I would say that if we look at</p> <p>17 the -- many of the studies published after</p> <p>18 2014, there does appear to be a dose</p> <p>19 response, and so that information wouldn't</p> <p>20 have been available. The Wu -- the original</p> <p>21 Wu study did show a response. The Cramer</p> <p>22 study 2016, the Schildkraut study, the</p> <p>23 Penninkilampi meta-analysis all showed some</p> <p>24 hint of a dose response. They wouldn't have</p>

<p style="text-align: right;">Page 330</p> <p>1 had any of those, except the Wu. 2 BY MS. BROWN: 3 Q. And those studies did not -- 4 for example, Cramer did not show a dose 5 response with duration of use, right? 6 A. I thought they showed an 7 increase with frequency and duration of use. 8 Q. And so if you look, for 9 example, at Table 1 of Cramer, we actually 10 see a decrease in the risk after 35 years, 11 right? 12 A. Can I -- 13 Q. Absolutely. 14 A. Is that one of the exhibits? 15 Because it's not in there. 16 Q. Right. 17 A. Or I can't find it. 18 Q. We marked it as 11. 19 A. Yeah. 20 MS. O'DELL: Here we go. 21 A. Years used. So I'm looking at 22 Table 1. Is that what you're looking at? 23 BY MS. BROWN: 24 Q. Right. If you look at the</p>	<p style="text-align: right;">Page 332</p> <p>1 frequency, if you look at Table 1 continued 2 on the very next page, there was -- while 3 there was an increase of use up to 7200 4 applications, after 7200 applications, the 5 use decreased, right? 6 MS. O'DELL: Object to the 7 form. 8 A. No, the top part of that, it 9 goes up, it goes down, it goes back up. The 10 bottom part of that -- the last part of that 11 table is assuming 12 months per year 12 missing -- these are people with missing 13 months. 14 BY MS. BROWN: 15 Q. And so you agree there's not a 16 linear increase in frequency of application, 17 correct? 18 A. In this paper, there's not a 19 linear increase, but there is an increase 20 with more frequent application. And I want 21 to say, again, and I think I've said this 22 earlier, is that what's a dose? Frequency of 23 use, in my head, I can't get my head around, 24 is it the same amount every time? There</p>
<p style="text-align: right;">Page 331</p> <p>1 years used, you'd agree with me that there's 2 actually a slight decreased risk after 35 3 years of use? 4 A. But there's an increased risk 5 between 8 and 20, up to 35, and all of those 6 are fairly similar. 7 Q. And what Cramer himself 8 includes -- concludes, is that the trend for 9 years used was flat, right? 10 A. Yes. 11 Q. So what he did not find was 12 that the longer you used talcum powder, a 13 significant increase in your risk of ovarian 14 cancer, correct? 15 MS. O'DELL: Object to the 16 form. 17 A. The more frequently you used 18 it, an increase. 19 BY MS. BROWN: 20 Q. Right. But as to the number of 21 years, he did not find any dose response, 22 correct? 23 A. That's correct. 24 Q. And even to be fair as to the</p>	<p style="text-align: right;">Page 333</p> <p>1 isn't -- it's not like it's a 5-milligram 2 pill. It's powder in your panties. And to 3 look at any of this data and try to 4 equivocate dose, I think it's challenging. 5 Q. One of the things you say in 6 your report is, given those challenges, the 7 evaluation of a dose response was not as 8 important to your analysis; is that right? 9 A. Yes. 10 MS. O'DELL: Object to form. 11 BY MS. BROWN: 12 Q. And what -- and that's 13 different than the Bradford Hill criteria, 14 right? 15 MS. O'DELL: Object to the 16 form. 17 A. That's one of the tenets of the 18 Bradford Hill. It's not the only one. 19 BY MS. BROWN: 20 Q. Right. But in your analysis, 21 you determined that that factor of the 22 Bradford Hill was less important, correct? 23 A. Because it's hard to 24 quantitate, as I just stated, what's a dose.</p>

<p style="text-align: right;">Page 334</p> <p>1 Even if you know for sure how many times 2 someone used talcum powder, you don't know 3 what dose they used and where it went. Did 4 it go all in their panties? Did it go on the 5 floor? Did it got in their groins? Did go 6 it up their backside? How much did they use? 7 None of these papers attempted 8 to and understandably it's hard to quantitate 9 how much is a dose. And so given that it's 10 challenging to answer the question about dose 11 response, it's hard to put a lot of weight on 12 that. 13 Q. And what you say in your report 14 at page 15, is that given the limitations of 15 the data, and those would be the limitations 16 you just described, right? 17 A. Yes. 18 MS. O'DELL: Objection to form. 19 BY MS. BROWN: 20 Q. And what that means is that 21 this product, the use of this product is 22 difficult to quantify, correct? 23 MS. O'DELL: Object to the 24 form.</p>	<p style="text-align: right;">Page 336</p> <p>1 their -- all of those things are hard to 2 quantify. 3 BY MS. BROWN: 4 Q. Is there any scientific data 5 that you are aware of that shows a particular 6 percentage of perineal powder reaching the 7 ovary? 8 A. I'm not aware that there's any 9 data that's ever looked at that. 10 Q. For purposes of your opinion, 11 however, you have assumed that some amount of 12 the powder that's applied perineally reaches 13 the ovary; is that right? 14 MS. O'DELL: Object to the 15 form. 16 A. I assume that there's migration 17 of talc particles through the open genital 18 tract to get to the ovary. 19 BY MS. BROWN: 20 Q. And for your opinion to hold 21 true, that talcum powder that reaches the 22 ovary causes ovarian cancer, is there a 23 particular amount of talcum powder in your 24 mind that needs to reach the ovary?</p>
<p style="text-align: right;">Page 335</p> <p>1 A. The dose of using this product 2 is difficult to quantify. 3 BY MS. BROWN: 4 Q. Right. And when you say "the 5 dose is difficult to quantify," that just -- 6 you're referring to just the dose that 7 somebody puts on their perineum or on their 8 underwear, right? 9 MS. O'DELL: Object to form. 10 A. Their exposure dose, I'm 11 referring to now -- wherever they put it on 12 their perineum. 13 BY MS. BROWN: 14 Q. So are you -- would you agree 15 that both the amount that they used is 16 difficult to quantify? Fair? 17 A. Yes. 18 Q. As well as the amount that 19 actually reaches the ovary, right? 20 MS. O'DELL: Object to the 21 form. 22 A. The amount they used, the 23 amount that reaches the ovary, their own body 24 sensitivity to whatever amount reaches</p>	<p style="text-align: right;">Page 337</p> <p>1 MS. O'DELL: Objection to form. 2 A. I think -- I have no idea what 3 that amount would be and I don't know that 4 that amount is the same for everyone. 5 BY MS. BROWN: 6 Q. Is there any scientific 7 literature on which you rely that establishes 8 that individuals are susceptible to talcum 9 powder in a different way? 10 A. Individuals are susceptible to 11 all cancer risk factors in a different way. 12 Everyone who has a BRC1 mutation doesn't get 13 ovarian cancer. Everyone who has a lynch 14 syndrome mutation doesn't get colon cancer. 15 There are individual differences in risk 16 factors. And everyone who uses 17 postmenopausal hormones doesn't get ovarian 18 cancer or breast cancer. So there are 19 individual differences. Everybody's made up 20 differently, has a different immune response. 21 So it only makes sense to me that if it's 22 different in every other circumstance, it's 23 going to be different in talcum powder use 24 exposure.</p>

<p style="text-align: right;">Page 338</p> <p>1 Q. Based on your review of the 2 epidemiology, is it your opinion that 3 individuals are put at risk for ovarian 4 cancer through perineal exposure more likely 5 than through inhalation of genital talcum 6 powder? 7 MS. O'DELL: Object to the 8 form. 9 A. In my review of the 10 epidemiology, all of the studies are 11 particularly looking at perineal exposure. 12 So through -- through that lens, I believe 13 that most of the information in those studies 14 is looking at that particular question, 15 perineal exposure, not necessarily 16 inhalation. 17 BY MS. BROWN: 18 Q. When you're evaluating a 19 patient for a suspected ovarian cancer, do 20 you inquire about any markers of asbestos 21 exposure, like pleural plaques or 22 mesothelioma or anything like that, 23 interstitial fibrosis? 24 A. Do I inquire about them? Do</p>	<p style="text-align: right;">Page 340</p> <p>1 or may not be related to the patient's 2 cancer. 3 Q. Have you -- in connection with 4 that opinion, Dr. Wolf, have you evaluated 5 the epidemiology on the miners and millers of 6 cosmetic talcum powder? 7 A. I believe that's in the IARC 8 paper or study. 9 Q. You recall that IARC points to 10 that as some of the best evidence, that 11 inhalation of nonasbestiform talc is not 12 carcinogenic? 13 MS. O'DELL: Object to the 14 form. 15 A. I don't recall that specific 16 conclusion. I'd have to look at it again. 17 So are we talking about IARC 10? Which one 18 are you -- 19 BY MS. BROWN: 20 Q. I'm just asking if you recall 21 and if you considered that conclusion? 22 MS. O'DELL: Could you repeat 23 the question, please? 24</p>
<p style="text-align: right;">Page 339</p> <p>1 you mean do I investigate -- 2 Q. Yes. 3 A. -- if they have any of those, 4 yes. 5 Q. Do you believe that if talcum 6 powder was contaminated with asbestos, that 7 it would be causing asbestos-related 8 diseases, like mesothelioma? 9 MS. O'DELL: Object to the 10 form. 11 A. Do I believe that if talcum 12 powder is contaminated with asbestos, would 13 it cause mesothelioma? 14 BY MS. BROWN: 15 Q. Uh-huh. 16 A. That's your question? I do 17 believe that talcum powder is contaminated 18 with asbestos and I believe that it causes -- 19 it can increase the risk of both mesothelioma 20 of the ovary and epithelial ovarian cancer. 21 And I'm investigating for any signs of 22 abnormality in the chest, I'm looking for any 23 abnormalities, evidence of mesothelioma or 24 any other abnormalities in the chest that may</p>	<p style="text-align: right;">Page 341</p> <p>1 BY MS. BROWN: 2 Q. Do you recall and did you 3 consider IARC's conclusion, that some of the 4 best epidemiology as it relates to inhalation 5 of a nonasbestiform talc, is the miners and 6 the millers of cosmetic talc? 7 A. I do recall that. 8 Q. Does that make sense to you as 9 a gynecologic oncologist, that one of the 10 best places to look in the epi world would be 11 the folks who are exposed to inhalation the 12 most? 13 MS. O'DELL: Object to the 14 form. 15 A. It makes sense to look at a 16 group of people who are going to be exposed. 17 BY MS. BROWN: 18 Q. And in concluding, as you have 19 done here today, Doctor, that cosmetic talcum 20 powder is contaminated with asbestos, how, if 21 at all, did you consider the results of the 22 miners and miller studies that IARC points to 23 as some of the best evidence? 24 MS. O'DELL: Object to the</p>

<p style="text-align: right;">Page 342</p> <p>1 form, asked and answered. 2 A. So I'm not sure what you're 3 asking. What I believe I'm hearing is, 4 you're asking if there's asbestos in talcum 5 powder, why don't miners and millers get 6 ovarian cancer? 7 BY MS. BROWN: 8 Q. Exactly. Have you considered 9 the fact that that epidemiology shows no 10 mesothelioma? 11 MS. O'DELL: Object to the 12 form. 13 A. That's a different question, 14 because I'm not talking about mesothelioma. 15 I'm talking about epithelial ovarian cancer. 16 BY MS. BROWN: 17 Q. And a second ago I asked you if 18 you thought that talc was contaminated with 19 asbestos and people were really breathing it 20 in, shouldn't it be causing mesothelioma in 21 women? And I thought your testimony was yes. 22 MS. O'DELL: Object to the 23 form. 24 A. No, you asked me do I</p>	<p style="text-align: right;">Page 344</p> <p>1 there's a lot of abnormalities in the lung 2 from breathing in talcum powder. And I'm 3 losing myself because I'm not sure of the 4 question again. Should -- can you -- let me 5 tell you what I think you're asking me. 6 BY MS. BROWN: 7 Q. Why don't I just rephrase the 8 question and try to do this bit by bit. 9 A. Okay. 10 Q. You would agree that 11 mesothelioma is a disease that is often 12 caused by asbestos exposure? 13 A. Yes. 14 Q. Some people refer to it as a 15 signature asbestos-related disease, correct? 16 MS. O'DELL: If you know. 17 A. I don't know that term 18 "signature." That's not something that -- 19 BY MS. BROWN: 20 Q. And you have offered the 21 opinion here today that talcum powder is 22 contaminated with asbestos, right? 23 A. Yes. 24 Q. And you have offered the</p>
<p style="text-align: right;">Page 343</p> <p>1 investigate if women who I think might have 2 ovarian cancer might have abnormalities in 3 the chest, including abnormalities associated 4 with mesothelioma, and I said, yes, I do, 5 because women with ovarian cancer often have 6 abnormalities in the chest. Usually if they 7 do, it's from their ovarian cancer, but 8 certainly I'm looking at any other potential 9 cause. 10 BY MS. BROWN: 11 Q. Understood. Bad question on my 12 part. We're missing each other. If -- you 13 hold the opinion that talcum powder is 14 contaminated with asbestos. And my question 15 is, if that were true, shouldn't we be seeing 16 mesothelioma in the miners and the millers of 17 cosmetic talcum powder? 18 MS. O'DELL: Object to the 19 form. 20 A. I'm not sure how to answer 21 that, because I think that talcum powder has 22 multiple components that could cause cancer. 23 Is it only the asbestos that could be -- 24 certainly, in people who work in mines,</p>	<p style="text-align: right;">Page 345</p> <p>1 opinion that perineal use of talcum powder 2 could reach the ovaries via inhalation, 3 correct? 4 A. Yes. 5 Q. And so my question to you is, 6 if talcum powder is really contaminated with 7 asbestos and if women who use it perineally 8 really do inhale it, shouldn't they be 9 getting asbestos-related diseases like 10 mesothelioma? 11 MS. O'DELL: Object to the 12 form. 13 A. I'm going to say that they 14 might. 15 BY MS. BROWN: 16 Q. And in forming that opinion, 17 have you considered the epidemiology on the 18 miners and millers of cosmetic talcum powder? 19 A. Yes. That we just talked 20 about. 21 Q. Okay. And those studies show 22 that the folks with the highest, highest 23 exposure to cosmetic talcum powder via 24 inhalation, don't get mesothelioma, right?</p>

<p style="text-align: right;">Page 346</p> <p>1 MS. O'DELL: Object to the 2 form. 3 THE WITNESS: Are you just 4 objecting? 5 MS. O'DELL: Yes. 6 THE WITNESS: I wasn't sure if 7 I was supposed to answer or not. 8 A. In that study, those patients 9 did not get mesothelioma. So again, the 10 question is, might talcum powder applied 11 perineally cause ovarian cancer by -- via an 12 inhalation route? Yes, I think that could 13 happen. Do I think those people should be 14 getting mesothelioma, because I have evidence 15 that that talcum powder is contaminated with 16 mesothelioma? I don't know. Maybe. 17 BY MS. BROWN: 18 Q. Did you look, in evaluating the 19 occupational studies that IARC relies on in 20 concluding that heavy occupational exposure 21 to asbestos causes ovarian cancer, did you 22 look at how the relative risks for ovarian 23 cancer in those studies compared to the 24 relative risks for mesothelioma?</p>	<p style="text-align: right;">Page 348</p> <p>1 BY MS. BROWN: 2 Q. Does your current institution, 3 the Community Health Practice, does it advise 4 women that perineal use of talcum powder 5 causes ovarian cancer? 6 A. So in my practice, it's me, a 7 physician's assistant and a nurse 8 practitioner and one other GYN oncologist. I 9 do, my physician's assistant does, my nurse 10 practitioner does. I don't know about my 11 partner. 12 Q. And we talked a little bit 13 earlier about when you started that practice. 14 Do you recall when you started telling 15 patients your belief that talcum powder use 16 causes ovarian cancer? 17 A. I started asking my patients 18 about their use and telling them to stop or 19 not use it once I started reviewing all of 20 the literature and formed my opinion. 21 Q. You made a motion, all the 22 literature that's in front of you, right? 23 A. Yes. 24 Q. So you --</p>
<p style="text-align: right;">Page 347</p> <p>1 A. Yes. 2 Q. And what was the conclusion 3 there, Doctor? 4 A. The relative risks of 5 mesothelioma is higher. 6 Q. By how much? 7 A. I can't remember. A lot. 8 Q. Okay. So do you recall seeing 9 relative risks for ovarian cancers in the 1.5 10 to 2.5 range? 11 A. Yeah. 12 Q. And for mesothelioma in the 40 13 range? 14 A. Yes. 15 Q. And so if someone is truly 16 exposed to heavy amounts of asbestos through 17 inhalation, they -- based on that data that 18 IARC considered, they're far more likely to 19 get mesothelioma than ovarian cancer, right? 20 MS. O'DELL: Object to the 21 form. 22 A. If people are exposed to heavy 23 doses of asbestos, they're more likely to get 24 mesothelioma than ovarian cancer, yes.</p>	<p style="text-align: right;">Page 349</p> <p>1 MS. O'DELL: Which is not just 2 in front of you, but we're talking 3 about what's on the side table as 4 well. 5 THE WITNESS: Yes. 6 MS. BROWN: Fair. 7 BY MS. BROWN: 8 Q. So to be clear, you started the 9 practice of asking patients if they used 10 talcum powder after you had undertaken review 11 of the literature in connection with your 12 expert work, correct? 13 MS. O'DELL: Object to the 14 form. 15 A. After I undertook review of the 16 literature. 17 BY MS. BROWN: 18 Q. And I understand that you 19 undertook a review of the literature in 20 connection with your expert work, right? 21 A. That's when I read all of the 22 literature -- began reading all of the 23 literature. I was aware of some of the data, 24 but when I began reviewing all of the</p>

<p style="text-align: right;">Page 350</p> <p>1 literature, yes.</p> <p>2 Q. Okay. And so prior to that</p> <p>3 time, it was not your practice to ask</p> <p>4 patients whether or not they used talcum</p> <p>5 powder, correct?</p> <p>6 A. Not as a routine. However, if</p> <p>7 I saw somebody who, when I examined them,</p> <p>8 obviously was using talcum powder, I</p> <p>9 recommended they not use it. They stop.</p> <p>10 Q. Do you agree, Doctor, that much</p> <p>11 about ovarian cancer is shrouded in mystery,</p> <p>12 from causes to early detection to effective</p> <p>13 treatments?</p> <p>14 MS. O'DELL: Object to the</p> <p>15 form.</p> <p>16 A. I would not agree with that</p> <p>17 statement.</p> <p>18 BY MS. BROWN:</p> <p>19 Q. Let's mark this as Exhibit 20.</p> <p>20 (Deposition Exhibit 20 marked</p> <p>21 for identification.)</p> <p>22 BY MS. BROWN:</p> <p>23 Q. Handing you, Doctor, an article</p> <p>24 entitled "The Future of Ovarian Cancer</p>	<p style="text-align: right;">Page 352</p> <p>1 Right?</p> <p>2 A. Yes.</p> <p>3 Q. And as of November 2015, that</p> <p>4 was information that you signed off on,</p> <p>5 correct?</p> <p>6 A. Yes.</p> <p>7 Q. Okay. And so as of</p> <p>8 November 2015, you do not believe that one of</p> <p>9 the well-known causes of ovarian cancer is</p> <p>10 talcum powder use. True?</p> <p>11 A. I can't remember the time. I</p> <p>12 can tell you that this was used as part of</p> <p>13 patient information in relationship to the</p> <p>14 company that I was working, and the point of</p> <p>15 this was not to talk about risk factors. It</p> <p>16 was to talk about the importance of diagnosis</p> <p>17 and informing women, the general lay</p> <p>18 population, about getting to a gynecologic</p> <p>19 oncologist if they had a pelvic mass.</p> <p>20 Q. The information contained in</p> <p>21 Exhibit 20 was meant for patients who --</p> <p>22 A. For women.</p> <p>23 Q. For women.</p> <p>24 A. For women.</p>
<p style="text-align: right;">Page 351</p> <p>1 Diagnosis is Now - Through These 4</p> <p>2 strategies," by Judy Wolf, November 11th,</p> <p>3 2015. Is this an article that you wrote,</p> <p>4 Doctor? First of all, is that your picture</p> <p>5 next to Judy Wolf on the first page?</p> <p>6 A. It is.</p> <p>7 Q. Okay. And this article, dated</p> <p>8 November 11th, 2015, has your byline and</p> <p>9 picture, right?</p> <p>10 A. It does.</p> <p>11 Q. Okay. And do you recall,</p> <p>12 during the time period that you were in the</p> <p>13 private sector, authoring a number of</p> <p>14 articles that were posted on a website called</p> <p>15 nopelvicmass.com?</p> <p>16 A. Yes.</p> <p>17 Q. And was this one of those</p> <p>18 articles potentially?</p> <p>19 A. Yes. Yes.</p> <p>20 Q. Okay. And as we just -- as I</p> <p>21 just read, the article that has your picture</p> <p>22 and name on it says, "So much about ovarian</p> <p>23 cancer is shrouded in mystery, from causes to</p> <p>24 early detection to effective treatments."</p>	<p style="text-align: right;">Page 353</p> <p>1 Q. Okay. And certainly as a</p> <p>2 doctor, as a gynecologic oncologist, you</p> <p>3 think it's important to be truthful with</p> <p>4 women when you write about issues concerning</p> <p>5 women's health, right?</p> <p>6 MS. O'DELL: Object to the</p> <p>7 form.</p> <p>8 A. I don't see anything on here</p> <p>9 that was -- is untruthful.</p> <p>10 BY MS. BROWN:</p> <p>11 Q. I'm not suggesting that. I was</p> <p>12 just asking you, that when you write, as you</p> <p>13 do often, information about women's health,</p> <p>14 you'd agree it's important to be truthful?</p> <p>15 A. Yes.</p> <p>16 Q. Because the intended recipient</p> <p>17 of your writing are women who have or may</p> <p>18 have ovarian cancer, right?</p> <p>19 A. Yes.</p> <p>20 (Deposition Exhibit 21 marked</p> <p>21 for identification.)</p> <p>22 BY MS. BROWN:</p> <p>23 Q. I'm handing you, Doctor, what</p> <p>24 we have marked as Exhibit 21 to your</p>

<p style="text-align: right;">Page 354</p> <p>1 deposition. This is another article with 2 your name and picture, entitled "How to find 3 the best doctor for ovarian cancer." Do you 4 recall writing this article? 5 A. Not specifically, but I know I 6 did a lot of these while I was working at 7 Vermillion. 8 Q. Okay. And just to close the 9 loop, Exhibit 20, even though you don't 10 necessarily recall writing it, you don't 11 dispute this is something that you did write, 12 correct? 13 A. I'm not disputing that. 14 Q. Okay. And the same for 15 Exhibit 21, you don't dispute that this 16 article is something you wrote in December of 17 2015? 18 A. That's correct. 19 Q. Okay. And this, again, was an 20 article aimed at folks who -- women who may 21 be concerned about ovarian cancer, correct? 22 A. Yes. 23 Q. And one of the things you did 24 in this article was to identify risk factors</p>	<p style="text-align: right;">Page 356</p> <p>1 ovarian cancer, right? 2 A. Yes. 3 Q. And then the fourth is close 4 relatives with a history of breast cancer or 5 ovarian cancer at any age, right? 6 A. Yes. 7 Q. And then the fourth and fifth 8 have to do with the Ashkenazi Jewish 9 heritage, correct? 10 A. Yes. 11 Q. And one of the things you did 12 not list in December of 2015 as a risk factor 13 for ovarian cancer, was genital use of talcum 14 powder, correct? 15 A. I did not use -- list any 16 nonhereditary risk. 17 Q. And that would include talcum 18 powder, correct? 19 A. Including talcum powder, 20 endometriosis, obesity, any hormonal 21 replacement. 22 Q. Sorry. Are you done? 23 A. I'm done. 24 Q. And that's in part, Doctor,</p>
<p style="text-align: right;">Page 355</p> <p>1 for ovarian cancer. True? 2 A. All listed here are familial 3 risk factors. 4 Q. And the title of the section 5 you have in this -- well, first, you say, 6 "What are the odds," right? The odds of 7 getting ovarian cancer, right? And you say 8 one place to start is by considering your 9 risk factors. True? 10 A. Yes. 11 Q. All right. And then you state, 12 "You're more likely to be at risk of ovarian 13 cancer if" -- and then you have a number of 14 bullets, correct? 15 A. Yes. And all of those bullets 16 relate to genetic risk. 17 Q. Exactly. And so the first 18 deals with a first-degree relative, right? 19 A. Yes. 20 Q. The second is a prior history 21 of breast cancer, correct? 22 A. Yes. 23 Q. The third is a prior history of 24 breast cancer and a relative with breast or</p>	<p style="text-align: right;">Page 357</p> <p>1 because in December of 2015, you had not 2 formed the opinion that genital use of talcum 3 powder causes ovarian cancer. True? 4 MS. O'DELL: Object to the 5 form. 6 A. That was prior to my doing any 7 of the review of all the literature. 8 BY MS. BROWN: 9 Q. Right. And so at the time of 10 these articles, that Exhibit 20 and 21, you 11 did not hold the opinion that talcum powder 12 use perineally causes ovarian cancer, 13 correct? 14 A. I wasn't convinced, as I am 15 today. 16 Q. Have you done any prior expert 17 work, Dr. Wolf? 18 A. No. 19 Q. Have you reviewed any 20 individual plaintiff cases who are suing in 21 the talcum powder litigation? 22 A. No. 23 Q. Okay. Has the extent of your 24 involvement in the talcum powder litigation</p>

<p style="text-align: right;">Page 358</p> <p>1 related to the report that we've been 2 discussing today? 3 A. Yes. 4 Q. Okay. And in total, does it 5 sound about right to you, you've charged the 6 plaintiffs' lawyers for about 83 hours in 7 connection with your work? 8 A. That seems about right. 9 Q. And your rate is \$600 an 10 hour -- 11 A. Yes. 12 Q. -- is that correct? And how 13 did you come up with that rate? 14 A. I asked -- I asked my friend 15 Ali, what do people usually charge for this 16 kind of thing, and then I kind of picked a 17 rate in -- what I felt like was in the 18 middle. 19 Q. And so if I wanted to know how 20 much money the plaintiffs' lawyers have paid 21 you in total for your work in the talc 22 litigation, I could multiply 600 by 83 and 23 that should be about right? 24 A. That should be about right.</p>	<p style="text-align: right;">Page 360</p> <p>1 report and the references and write a review 2 paper and submit it for publication. 3 Q. Have you done any work to that 4 end yet, Doctor? 5 A. I haven't. 6 Q. Do have you have any journals 7 in mind where you intend to submit that 8 review? 9 A. I haven't decided for sure yet. 10 The journals that I read the most and most 11 GYN oncologists read, are the GYN Oncology, 12 the Journal of Clinical Oncology, The Gray 13 Journal, the ACOG journal, which is called 14 The Green Journal. So I would probably 15 choose one of those because clinicians read 16 them. 17 Q. Are you a member of ACOG? 18 A. I am. 19 Q. And are you a member of SGO? 20 A. I am. 21 Q. And in forming your opinions in 22 this case, did you consider the risk factors 23 that ACOG and SGO recognize for ovarian 24 cancer?</p>
<p style="text-align: right;">Page 359</p> <p>1 Q. Do you have any additional 2 plans to do additional expert work for the 3 plaintiffs in the talc litigation? 4 A. I mean, completing out whatever 5 happens with this case. 6 Q. Other than what we're here 7 about today, right? 8 A. That's -- that's all I have 9 planned. 10 Q. Do you have a website in 11 connection with your current practice? 12 A. I do. 13 Q. And do you indicate on your 14 website that talcum powder causes ovarian 15 cancer? 16 A. I don't believe I talk about 17 any risk -- specific risk factors for ovarian 18 cancer. That website is to introduce 19 patients to who I am and how I like to 20 practice. 21 Q. Do you have any plans to 22 publicize your belief that talcum powder 23 causes ovarian cancer? 24 A. I actually do plan to take my</p>	<p style="text-align: right;">Page 361</p> <p>1 A. Yes. 2 Q. And are you aware that in their 3 patient-facing websites, as well as any of 4 their publicly related information about 5 ovarian cancer, neither SGO nor ACOG 6 identifies perineal use of talcum powder as a 7 risk factor for ovarian cancer? 8 A. I am aware of that. 9 Q. And do you believe that the 10 doctors and the scientists at SGO and ACOG 11 simply have not reviewed all of the data 12 regarding perineal use of talcum powder and 13 ovarian cancer? 14 A. It's my understanding that most 15 of the GYN oncologists probably have not 16 reviewed the literature to the extent of 17 which I have reviewed it. And given that the 18 volume of literature has increased recently, 19 it takes time for societies like SGO and ACOG 20 to come up with an opinion. It has to go 21 through a committee and various steps to come 22 out. I don't think this is something that's 23 risen to their attention enough. That's part 24 of the reason that I want to write a paper</p>

<p style="text-align: right;">Page 362</p> <p>1 about it, to help inform my colleagues. 2 Q. Have you contacted anyone at 3 ACOG or SGO and told them that you think they 4 need to update their website and list that 5 talcum powder causes ovarian cancer? 6 A. I haven't yet. 7 Q. Do you intend to do that? 8 A. I intend to write a letter to 9 SGO with my concerns, asking them to review 10 it. I think that's the first step, is they 11 have to review the literature on their own. 12 Q. And you have been doing this 13 talcum powder work for the plaintiffs' 14 lawyers for a little over a year now; is that 15 right? 16 A. Yes. 17 Q. And during that time period, 18 you haven't contacted any of your 19 professional organizations to inform them of 20 your view that talc causes ovarian cancer? 21 MS. O'DELL: Object to the 22 form. 23 A. I have talked to individual 24 colleagues who practice GYN oncology, and I</p>	<p style="text-align: right;">Page 364</p> <p>1 BY MS. BROWN: 2 Q. Okay. And it sounds like you 3 nonetheless, have raised the issue with some 4 folks at the coalition, correct? 5 A. Yes. 6 Q. And it sounds like they don't 7 agree with your assessment, correct? 8 MS. O'DELL: Object to the 9 form. 10 A. The last time I raised it, 11 which was in the spring, at the meeting that 12 is in conjunction with the Society of GYN 13 Oncology, they didn't want to address it, 14 they didn't want to take it on as something 15 to review. 16 BY MS. BROWN: 17 Q. But do you think, generally, 18 the doctors and the scientists at 19 organizations like ACOG and SGO and the 20 National Ovarian Cancer Coalition are working 21 very hard to protect women's health issues? 22 MS. O'DELL: Object to the 23 form. 24 A. I think that all of those</p>
<p style="text-align: right;">Page 363</p> <p>1 have talked to the National Ovarian Cancer 2 Coalition Medical Advisory Board, of which 3 I'm on the board. I used to be on the 4 advisory board. And at the time that I 5 raised it, there wasn't a lot of interest in 6 pursuing it. 7 BY MS. BROWN: 8 Q. And so one of the organizations 9 you referenced and to your credit have done a 10 lot of work with, is the National Ovarian 11 Cancer Coalition, right? 12 A. Yes. 13 Q. And as you well know, as 14 someone who's been very active in that 15 organization, they too have a statement on 16 talcum powder, right? 17 A. Yes. 18 Q. And the National Ovarian Cancer 19 Coalition does not believe that the evidence 20 supports that talcum powder causes ovarian 21 cancer, right? 22 MS. O'DELL: Object to form. 23 A. That's what their statement 24 says.</p>	<p style="text-align: right;">Page 365</p> <p>1 societies and many other advocacy groups are 2 doing what they think is best to protect 3 women's health. 4 BY MS. BROWN: 5 Q. Have you considered the 6 possibility that these folks at ACOG, at SGO, 7 at NCI, at FDA, at IARC have reviewed the 8 same data that you have and come to a 9 different conclusion? 10 MS. O'DELL: Object to the 11 form. 12 A. I don't have all of the 13 information about what they've reviewed or 14 not reviewed. And some of those, I know that 15 they didn't have all of the data and some of 16 them, like the National Ovarian Cancer 17 Coalition, I know they haven't reviewed the 18 data. I don't know that SGO has done that at 19 any time recently. If you go to their 20 website, they refer you to ACOG. So I can't 21 make that statement. 22 BY MS. BROWN: 23 Q. You don't have those -- sitting 24 here as someone who's been active in the</p>

<p style="text-align: right;">Page 366</p> <p>1 women's health field for almost 30 years, you 2 don't have any reason to believe that the 3 folks at ACOG, SGO, FDA, NCI, CDC have not 4 kept up-to-date with the talc and ovarian 5 cancer epidemiology? 6 MS. O'DELL: Object to the 7 form, misstates her testimony, assumes 8 things not in the record. 9 A. My assumption is that some 10 people in all of those have probably read 11 some of the data. I'm not sure who, if 12 anyone, in any of those has looked at all of 13 the evidence in the way that I have done. 14 BY MS. BROWN: 15 Q. And the way that you've looked 16 at the evidence is by using sort of your 17 interpretation of Bradford Hill; is that 18 right? 19 MS. O'DELL: Object to the 20 form. 21 A. I would say evidence-based 22 medicine and then using the tenets of 23 Bradford Hill to explain how I interpreted 24 the data that I reviewed.</p>	<p style="text-align: right;">Page 368</p> <p>1 A. Because there's limitations in 2 the data that we'll never know the answer to. 3 Q. And as it relates to strength 4 of the association, in your review of the 5 data, what is the relative risk associated 6 with talcum powder use and ovarian cancer? 7 MS. O'DELL: Object to the 8 form. 9 A. The overall -- looking at the 10 studies as a whole, 1.3 to 1.4 odds ratio. 11 BY MS. BROWN: 12 Q. And do you consider that to be 13 a strong association? 14 A. I consider it to be a 15 consistent, reliable association. It doesn't 16 have to be a high number, and Bradford Hill 17 explains that in FedEx paper, that it's the 18 consistent association and finding that 19 association. It doesn't have -- it's not 20 number dependent. 21 Q. You'd agree that 1.3 and 1.4 is 22 not a high relative risk? 23 MS. O'DELL: Object to the 24 form.</p>
<p style="text-align: right;">Page 367</p> <p>1 BY MS. BROWN: 2 Q. I'm sorry to interrupt. And 3 your methodology, though, as it relates to 4 Bradford Hill, employs a methodology that has 5 less reliance on dose response, right? 6 MS. O'DELL: Object to the 7 form. 8 A. Not less reliance on dose 9 response, just that in this particular case, 10 determining what the dosage is makes it hard 11 to determine the dose response. 12 BY MS. BROWN: 13 Q. And you say in your report that 14 you consider that a less important factor, 15 right? 16 MS. O'DELL: Object to the 17 form. 18 BY MS. BROWN: 19 Q. And so that's your report on 20 page 15, I think we talked about this 21 earlier, "Given the limitations of the data, 22 I consider this to be a less important factor 23 compared to strength of association, 24 consistency and biologic mechanism"?</p>	<p style="text-align: right;">Page 369</p> <p>1 A. 1.3 and 1.4 is not 10, but 1.2 2 was the risk of hormone -- postmenopausal 3 hormone replacement therapy, and I believe 4 that's a real risk also. 5 BY MS. BROWN: 6 Q. Have you considered in your 7 review of the epi, the FDA's concern that the 8 studies that have found small positive 9 associations have lower confidence limits 10 that are pretty close to 1? Have you looked 11 into that? 12 MS. O'DELL: Object to the 13 form. 14 A. So when the odds ratio's 1.3, 15 your confident intervals might be close to 1 16 sometimes. However, if it doesn't cross 1, 17 it's statistically significant. 18 BY MS. BROWN: 19 Q. And one of the reasons -- do 20 you understand why the FDA is concerned if 21 the confidence interval is getting close to 22 1? 23 A. That it might be by random 24 chance, yes.</p>

<p style="text-align: right;">Page 370</p> <p>1 Q. And do you share that concern 2 as you evaluate the confidence intervals 3 here? 4 A. If I didn't see such a 5 consistent average of 1.3 to 1.4, I would be 6 more concerned about it. As a whole, I'm not 7 concerned about it when I look at all of the 8 evidence. 9 Q. And when you say "consistent," 10 you're referring within the population 11 case-control studies, right? 12 MS. O'DELL: Object to the 13 form. 14 A. Yes. 15 BY MS. BROWN: 16 Q. Because if you look at the 17 prospective cohorts, there's not consistency 18 in the case controls, right? 19 A. When you look at the 20 meta-analyses, everything as a whole, yes, 21 1.3 to 1.4. 22 Q. Okay. If you bear with me for 23 just one minute, Dr. Wolf, I want to just 24 make sure I'm not forgetting anything and</p>	<p style="text-align: right;">Page 372</p> <p>1 for me everything, other than talc, that you 2 believe is in Johnson & Johnson baby powder 3 and causes ovarian cancer. 4 MS. O'DELL: Object to the 5 form. 6 A. What I believe is in talcum 7 powder product and that can be -- cause 8 inflammation and/or be carcinogenic is platy 9 talc, fibrous talc, asbestos, heavy metals, 10 including nickel, chromium and cobalt, and 11 fragrance products that can be irritating and 12 inflammatory. 13 BY MS. BROWN: 14 Q. And you have not formed an 15 opinion in connection with your analysis, as 16 to how much each of the items that you just 17 listed make up baby powder, right? 18 MS. O'DELL: Of a particular 19 bottle, over time or -- 20 MS. BROWN: Any -- 21 MS. O'DELL: -- what's the 22 context of the question? 23 MS. BROWN: At all. 24</p>
<p style="text-align: right;">Page 371</p> <p>1 then I'm going to turn the questioning over 2 to some of my colleagues. 3 When you say on page 8, "The 4 risk elevation is 20-60 percent," do you 5 think it's more like 30 to 40? 6 A. I think if you look at all the 7 papers, some of them are 20 and some of them 8 are as high as 60. 9 Q. And, of course, if the actual 10 risk is as high as 60, Narod's critique is 11 not accurate. Fair? 12 A. That's the range of what's been 13 reported. The average is 1.3 to 1.4, and I 14 believe that's what he estimated the 200,000 15 on. 16 Q. Did you understand him to be 17 estimating how many he needed to study if the 18 true relative risk was 1.2? 19 A. I don't remember if it was 1.2 20 or 1.3. 21 Q. Okay. Real quick, Doctor, I 22 want to just make sure I understand your 23 opinion as it relates to the composition of 24 talcum powder. Do you believe that -- list</p>	<p style="text-align: right;">Page 373</p> <p>1 BY MS. BROWN: 2 Q. I mean, have you attempted to 3 quantify how much heavy metal is in baby 4 powder? 5 A. I haven't attempted to quantify 6 it. The fact that there's any heavy metal in 7 there that's carcinogenic is of concern. 8 Q. And what are you relying on for 9 your opinion that there's heavy metals in 10 baby powder? 11 A. So that I believe is in Julie 12 Pier's -- let me find it -- deposition. 13 Julie Pier -- Exhibit 47. 14 Q. Other than Exhibit 47 to Julie 15 Pier's deposition, are you relying on 16 anything else to support your opinion that 17 baby powder products are contaminated with 18 heavy metals? 19 A. And also the testing by Longo 20 and Rigler. 21 Q. Other than Julie Pier, Longo 22 and Rigler, are you relying on anything else 23 to support your opinion that heavy metals 24 contaminate Johnson & Johnson baby powder</p>

<p style="text-align: right;">Page 374</p> <p>1 products?</p> <p>2 A. No.</p> <p>3 Q. And as to asbestos, we reviewed</p> <p>4 your reliance materials before. You're</p> <p>5 relying on the articles you pointed me to,</p> <p>6 Hopkins Exhibit 28, Blount's testimony and</p> <p>7 her '91 article and Longo's reports, to</p> <p>8 support your opinion that talcum powder</p> <p>9 contains asbestos, correct?</p> <p>10 A. And also the deposition of</p> <p>11 Julie Pier.</p> <p>12 Q. And again, as it relates to</p> <p>13 asbestos, you haven't made a determination as</p> <p>14 to how much asbestos is contaminating talcum</p> <p>15 powder, right?</p> <p>16 MS. O'DELL: Object to the</p> <p>17 form.</p> <p>18 A. I've made a determination that</p> <p>19 these testings show evidence of asbestos in a</p> <p>20 significant amount of talcum powder that was</p> <p>21 tested.</p> <p>22 BY MS. BROWN:</p> <p>23 Q. Okay. But in terms of how much</p> <p>24 asbestos is in an individual bottle, you</p>	<p style="text-align: right;">Page 376</p> <p>1 MS. O'DELL: Object to the</p> <p>2 form.</p> <p>3 A. I didn't say these cause</p> <p>4 ovarian cancer. I say that they're known to</p> <p>5 be carcinogenic and could be the cause of why</p> <p>6 talcum powder products causes ovarian cancer.</p> <p>7 And the other thing in there that I know can</p> <p>8 be inflammatory, from reading Dr. Crowley's</p> <p>9 report, are some of the fragrances that are</p> <p>10 used. And since inflammation is a risk</p> <p>11 factor and an initiator in -- leads -- is</p> <p>12 related to the progression of ovarian cancer,</p> <p>13 I have concerns about those.</p> <p>14 BY MS. BROWN:</p> <p>15 Q. And your opinion, then, Doctor,</p> <p>16 as I understand it, is that you're not sure</p> <p>17 which or what combination of all the items</p> <p>18 you just listed to me are working to cause</p> <p>19 cancer; is that right?</p> <p>20 MS. O'DELL: Object do the</p> <p>21 form.</p> <p>22 A. My opinion is that it's the</p> <p>23 talcum powder product as a whole that</p> <p>24 increases the risk of ovarian cancer, and</p>
<p style="text-align: right;">Page 375</p> <p>1 haven't attempted to quantify that, right?</p> <p>2 A. I haven't and it wouldn't</p> <p>3 change my opinion.</p> <p>4 Q. Okay. As it relates to fibrous</p> <p>5 talc, what are you relying on for your</p> <p>6 opinion that fibrous talc is contained in</p> <p>7 Johnson & Johnson baby powder products?</p> <p>8 A. I don't have it referenced</p> <p>9 here, but my understanding is that it's hard</p> <p>10 to get pure platy talc and it's always</p> <p>11 contaminated with some fibrous talc and I</p> <p>12 can't tell you where I've seen it, but I've</p> <p>13 seen it -- reports as small as 2 percent, as</p> <p>14 high as 20 percent.</p> <p>15 Q. And sitting here today, you're</p> <p>16 not sure of the site for that 2 to 20 percent</p> <p>17 fibrous talc?</p> <p>18 A. I'm not. No.</p> <p>19 Q. Other than platy talc, 2 to 20</p> <p>20 percent fibrous talc, some amount of heavy</p> <p>21 metals and some amount of asbestos, is there</p> <p>22 anything else you believe is in Johnson &</p> <p>23 Johnson baby powder products that causes</p> <p>24 ovarian cancer?</p>	<p style="text-align: right;">Page 377</p> <p>1 I've listed things that I know are in there</p> <p>2 that can be carcinogenic or inflammatory.</p> <p>3 BY MS. BROWN:</p> <p>4 Q. And to be clear, though, you</p> <p>5 don't have an opinion as to the amounts of</p> <p>6 any of the items you just listed for me as</p> <p>7 they appear in baby powder, right?</p> <p>8 MS. O'DELL: Object to the --</p> <p>9 object to the form.</p> <p>10 BY MS. BROWN:</p> <p>11 Q. That was a bad question.</p> <p>12 Here's what I want to know. I understand</p> <p>13 your opinion is based on your assumption that</p> <p>14 fragrance, platy talc, fibrous talc, heavy</p> <p>15 metals and asbestos are in Johnson &</p> <p>16 Johnson's products, correct?</p> <p>17 MS. O'DELL: Object to the</p> <p>18 form.</p> <p>19 A. It's in talcum powder product.</p> <p>20 BY MS. BROWN:</p> <p>21 Q. And that would include Johnson</p> <p>22 & Johnson's products, correct?</p> <p>23 A. Would include any talcum powder</p> <p>24 product.</p>

<p style="text-align: right;">Page 378</p> <p>1 Q. Are you of the opinion that --</p> <p>2 we need to change the tape. Sorry.</p> <p>3 THE VIDEOGRAPHER: Going off</p> <p>4 the record. The time is 4:40 p.m.</p> <p>5 (Recess taken from 4:40 p.m. to</p> <p>6 4:52 p.m.)</p> <p>7 THE VIDEOGRAPHER: This marks</p> <p>8 the beginning of disk 4. Back on the</p> <p>9 record. The time is 4:52 p.m.</p> <p>10 BY MS. BROWN:</p> <p>11 Q. Dr. Wolf, before we took a</p> <p>12 break, we were discussing your opinion that</p> <p>13 J&J's talcum powder products contain</p> <p>14 fragrances, platy talc, fibrous talc, heavy</p> <p>15 metals and asbestos. Do you recall that?</p> <p>16 A. I do.</p> <p>17 Q. And my question for you,</p> <p>18 Doctor, is it your opinion that J&J's talcum</p> <p>19 powder products contained all of those things</p> <p>20 at all periods of time?</p> <p>21 A. Well, what I know for sure and</p> <p>22 what testing that I've seen shows, that</p> <p>23 evidence of asbestos, heavy metals from the</p> <p>24 '70s through the '90s and testing looking for</p>	<p style="text-align: right;">Page 380</p> <p>1 there's evidence of asbestos at least.</p> <p>2 Q. And that's the Longo testing</p> <p>3 you referred to earlier?</p> <p>4 A. Yes.</p> <p>5 Q. Okay. Final question -- final</p> <p>6 area of questioning, Dr. Wolf, would be</p> <p>7 page 20 of your report. To be clear, you</p> <p>8 believe that the mechanism by which talcum</p> <p>9 powder causes cancer is chronic inflammation;</p> <p>10 is that right?</p> <p>11 A. This is a reference page. Are</p> <p>12 you looking at a different page?</p> <p>13 Q. Page 12 of your report?</p> <p>14 MS. O'DELL: You said 20.</p> <p>15 A. You said 20.</p> <p>16 BY MS. BROWN:</p> <p>17 Q. Sorry. Tired.</p> <p>18 A. I know. I understand. I</p> <p>19 believe it's inflammation that leads to</p> <p>20 oxidative stress that then causes DNA damage,</p> <p>21 and I believe with Saed's most recent papers,</p> <p>22 that it actually induces gene mutations that</p> <p>23 change ovarian epithelial cells and culture.</p> <p>24 Q. Do you rely on anyone else,</p>
<p style="text-align: right;">Page 379</p> <p>1 fibrous talc at that same time -- actually</p> <p>2 Longo tested for fibrous talc too and found</p> <p>3 it in 41 of 42 specimens. I don't know about</p> <p>4 the fragrance because I don't know how long</p> <p>5 this particular fragrance formulation has</p> <p>6 been used, if it's been -- how long it's been</p> <p>7 there. And platy talc and fibrous talc I</p> <p>8 would assume have always been there.</p> <p>9 Q. Have you done any investigation</p> <p>10 into the different source mines J&J has used</p> <p>11 over the years for its talcum powder</p> <p>12 products?</p> <p>13 A. They have used talcum powder</p> <p>14 from Vermont, from Italy -- I think Italy</p> <p>15 first and then Vermont and then China.</p> <p>16 Q. And do you believe that the</p> <p>17 components of talcum powder have changed over</p> <p>18 time?</p> <p>19 A. I believe that there's probably</p> <p>20 slight differences coming from different</p> <p>21 areas in the world. But as far as I can</p> <p>22 tell, the testing that I have seen throughout</p> <p>23 the Italian and Vermont and into early Asian,</p> <p>24 which I assume meant China, testing, that</p>	<p style="text-align: right;">Page 381</p> <p>1 other than Dr. Saed, for your opinion that</p> <p>2 talcum powder is -- do you believe that talc</p> <p>3 is genotoxic?</p> <p>4 A. I believe that Dr. Saed's paper</p> <p>5 that he found gene -- point gene mutations</p> <p>6 after application of talc -- talcum powder.</p> <p>7 Q. Do you believe that talcum</p> <p>8 powder is genotoxic to ovarian cells?</p> <p>9 A. I believe that his paper shows</p> <p>10 that there's genetic mutations that occur</p> <p>11 with exposure to talcum powder.</p> <p>12 Q. Independent of inflammation?</p> <p>13 A. Independent of inflammation.</p> <p>14 Q. So in fact, you think there are</p> <p>15 two ways by which talcum powder can cause</p> <p>16 ovarian cancer: Chronic inflammation and</p> <p>17 genetic mutations, correct?</p> <p>18 MS. O'DELL: Object to the</p> <p>19 form.</p> <p>20 A. So chronic inflammation that</p> <p>21 leads to changes within the cell and changes</p> <p>22 the oxidative state that then causes,</p> <p>23 secondarily, cytokine stimulation and changes</p> <p>24 in the cell, and then Saed's paper also shows</p>

<p style="text-align: right;">Page 382</p> <p>1 evidence of gene -- point gene mutations that 2 change the oxidative state of the cell to a 3 prone inflammatory state. 4 BY MS. BROWN: 5 Q. And other than Dr. Saed's work, 6 are you relying on any other published 7 literature to support your belief that talc 8 is genotoxic? 9 MS. O'DELL: Object to the 10 form. 11 A. Dr. Saed's work, as per my 12 review, is the most convincing data that I've 13 seen of genetic changes, separate from 14 inflammatory changes, when talc was exposed 15 to both ovarian epithelial cells, ovarian 16 cancer cell lines and fallopian tube 17 epithelial cell lines. 18 BY MS. BROWN: 19 Q. And one of the papers you cited 20 for us in your early footnotes, lists sort of 21 a weight of the hierarchy of evidence. Do 22 you recall that paper? 23 MS. O'DELL: Object to the 24 form.</p>	<p style="text-align: right;">Page 384</p> <p>1 BY MS. BROWN: 2 Q. And finally, Doctor, you 3 reference on page 12, in support of your 4 opinion -- page 12 of your report in support 5 of your opinion, that talcum powder causes 6 inflammation and oxidative stress in vitro 7 and in vivo. You reference the NTP study; is 8 that right? 9 A. Yes. 10 Q. Have you reviewed the FDA's 11 analysis of that NTP study? 12 A. I'm aware that they had some 13 concerns about the analysis. 14 Q. Do you share the concerns and 15 the -- first of all, you understand the FDA 16 concluded that the paper had serious flaws, 17 right? 18 MS. O'DELL: Object to the 19 form. 20 A. I understand that the FDA had 21 concerns about the paper. 22 BY MS. BROWN: 23 Q. Do you share those concerns? 24 A. I think that the NTP toxicology</p>
<p style="text-align: right;">Page 383</p> <p>1 BY MS. BROWN: 2 Q. You had a footnote 4 and 5, 3 some cites that dealt with sort of he weight 4 of the evidence, generally. Do you remember 5 those? 6 A. I just want to see what they 7 are, 4 and 5. 8 Q. Footnote 4 and 5. 9 A. These are talking about the 10 difference between cohort studies and 11 meta-analysis? 12 Q. Right. And they contained a 13 chart with a hierarchy of evidence. Do you 14 recall reviewing that? 15 A. Yes. 16 Q. And you would agree that expert 17 witness opinions are the very lowest rung of 18 that chart? 19 MS. O'DELL: Object to the 20 form. 21 A. I've referenced those charts in 22 relationship to evaluating cohort studies and 23 meta-analysis studies. 24</p>	<p style="text-align: right;">Page 385</p> <p>1 studies of talc is one of the pieces of 2 evidence that I believe supports that 3 inflammation occurs after talcum powder 4 application and can cause -- be a 5 carcinogenic -- mechanism of carcinogenesis. 6 Q. Do you agree with the 7 conclusion of the 1994 FDA workshop, that the 8 NTP study has no relevance to human risk? 9 MS. O'DELL: Object to the 10 form. 11 A. I believe that the NTP study 12 helps as an informative, along with all of 13 the other studies listed there, that talcum 14 powder causes inflammation and oxidative 15 stress in ovarian cells and in cells in 16 general and that this can be carcinogenic. 17 It's a piece of the evidence, not the whole 18 evidence. 19 BY MS. BROWN: 20 Q. Finally, Doctor, before I turn 21 the questioning over to my colleague, you 22 testified a little earlier that you plan to 23 write a review article based on the 24 information contained in your report?</p>

<p style="text-align: right;">Page 386</p> <p>1 A. Yes.</p> <p>2 Q. Do you have plans to disclose</p> <p>3 your work as an expert witness when you</p> <p>4 author that publication?</p> <p>5 A. Of course I would.</p> <p>6 Q. Would you plan to disclose the</p> <p>7 amount of money that you've made working for</p> <p>8 plaintiffs' lawyers in connection with that</p> <p>9 litigation -- paper?</p> <p>10 MS. O'DELL: Object to the</p> <p>11 form.</p> <p>12 A. As I've never written a</p> <p>13 paper -- as I've never been an expert witness</p> <p>14 before, I don't know what you need to</p> <p>15 disclose as far as that. I know that if you</p> <p>16 have grant or funding for anything, you</p> <p>17 disclose the amount and who it's from. I'm</p> <p>18 assuming it would be the same for this, but I</p> <p>19 don't know. I would check with the journal</p> <p>20 and see what was required and do whatever was</p> <p>21 appropriate.</p> <p>22 BY MS. BROWN:</p> <p>23 Q. And finally, Doctor, do you</p> <p>24 know of any scientific support for the</p>	<p style="text-align: right;">Page 388</p> <p>1 think you can make the step to say that it's</p> <p>2 because their vagina was stretched out more.</p> <p>3 MS. BROWN: Thanks for your</p> <p>4 time today, Dr. Wolf. I'm going to</p> <p>5 hand it over to my colleague.</p> <p>6 Can we go off for a second?</p> <p>7 MR. KLATT: Yeah, let's do</p> <p>8 that.</p> <p>9 THE VIDEOGRAPHER: Going off</p> <p>10 the record. The time is 5:02 p.m.</p> <p>11 (Recess taken from 5:02 p.m. to</p> <p>12 5:06 p.m.)</p> <p>13 THE VIDEOGRAPHER: Back on the</p> <p>14 record. The time is 5:06 p.m.</p> <p>15 EXAMINATION</p> <p>16 BY MR. KLATT:</p> <p>17 Q. Good afternoon, Dr. Wolf.</p> <p>18 A. Good afternoon.</p> <p>19 Q. My name is Mike Klatt and I</p> <p>20 represent Imerys Talc America in this case.</p> <p>21 You said earlier that you were aware that</p> <p>22 Imerys is a mining company, correct?</p> <p>23 A. That's correct.</p> <p>24 Q. I'm going to skip around,</p>
<p style="text-align: right;">Page 387</p> <p>1 opinions that women who have had children</p> <p>2 have a stretched-out vaginal tract such that</p> <p>3 migration is more likely?</p> <p>4 MS. O'DELL: Object to the</p> <p>5 form.</p> <p>6 A. I wouldn't put -- I would never</p> <p>7 say that women who have had children have a</p> <p>8 stretched-out vaginal tract. All women have</p> <p>9 an open vaginal tract. Women who have had</p> <p>10 multiple vaginal deliveries may or may not</p> <p>11 have a larger opening to their vagina than</p> <p>12 women who do not.</p> <p>13 BY MS. BROWN:</p> <p>14 Q. You haven't seen any data to</p> <p>15 suggest that having more kids increases your</p> <p>16 risk of ovarian cancer because more</p> <p>17 carcinogens can migrate to your ovaries,</p> <p>18 right?</p> <p>19 MS. O'DELL: Object to the</p> <p>20 form.</p> <p>21 A. So that seems like a multistep</p> <p>22 question. I do believe that at least one of</p> <p>23 the case-control studies looked at parity as</p> <p>24 a possible risk factor. Personally, I don't</p>	<p style="text-align: right;">Page 389</p> <p>1 because I've just been following what's been</p> <p>2 going on today and I just have a lot of</p> <p>3 questions in different areas. So there's</p> <p>4 probably not going to be necessarily a</p> <p>5 logical progression. So if you'll just bear</p> <p>6 with me, I'd appreciate it.</p> <p>7 A. Okay.</p> <p>8 Q. A minute ago, I believe that</p> <p>9 Ms. Brown asked you, that if you end up</p> <p>10 writing a letter or a review article to any</p> <p>11 organization about talc and ovarian cancer,</p> <p>12 you think it's important to disclose that</p> <p>13 you've been an expert in litigation regarding</p> <p>14 talc and ovarian cancer, correct?</p> <p>15 A. Yes.</p> <p>16 Q. Do you think it's important</p> <p>17 that you specifically disclose that you've</p> <p>18 been a retained, paid witness for plaintiffs</p> <p>19 in talc ovarian cancer in making that</p> <p>20 disclosure?</p> <p>21 A. Again, I've never been an</p> <p>22 expert witness before. I don't know what the</p> <p>23 rules of what I have to disclose, so that</p> <p>24 anyone who reads my article can read it with</p>

<p style="text-align: right;">Page 390</p> <p>1 all of the information. Whatever the journal 2 said I needed to disclose, I would disclose. 3 Q. But don't you think it's 4 important for your readers to know which side 5 you're involved in in this litigation? 6 MS. O'DELL: Object to the 7 form. 8 A. I don't know if that's 9 something that is routinely done. If it is, 10 I definitely would do that. 11 BY MR. KLATT: 12 Q. But I'm asking if you, 13 personally, think that's an important fact to 14 disclose. Wouldn't you want to know that if 15 you were a doctor not involved in this in 16 reading an article, which side the person who 17 authored the article was testifying for? 18 MS. O'DELL: Object to the 19 form. 20 BY MR. KLATT: 21 Q. Would that be important to you 22 to know? 23 A. I would want to know all the 24 information that I could know. I'm assuming</p>	<p style="text-align: right;">Page 392</p> <p>1 letter somewhere? 2 MS. O'DELL: Uh-huh. 3 A. And it has been accepted with 4 some reviewer comments, which Dr. Saed 5 addressed. I gave counsel one that was not 6 marked. 7 THE WITNESS: Is it on the 8 back? 9 A. Oh, yes, here. 10 BY MR. KLATT: 11 Q. And are there any peer review 12 or comments compared -- put forth in what 13 you're looking at? 14 A. The reviewer's -- yeah. Say 15 that question again. 16 Q. When people peer review an 17 article -- 18 A. Yes. 19 Q. -- they submit comments, 20 correct? 21 A. Yes. 22 Q. Suggestions for revising the 23 article or adding data or adding explanation 24 or whatever, correct?</p>
<p style="text-align: right;">Page 391</p> <p>1 that that's information that would be 2 required to be disclosed and I would disclose 3 it. 4 Q. Okay. Can you look at Exhibit 5 No. 4, which is Dr. Saed's manuscript. 6 A. Yes. 7 Q. That's not a published article, 8 correct? 9 A. It's an accepted article. 10 Q. Well, it hasn't even been peer 11 reviewed yet, correct? 12 A. No, it has been peer reviewed. 13 Q. Can you hand me the article? 14 Do you see how on multiple pages, virtually 15 every page in blueprint, it says "for peer 16 review"? 17 A. Yes. 18 Q. So that's being submitted for 19 peer review, correct? 20 MS. O'DELL: Object to the 21 form. 22 A. It has been submitted. It has 23 been reviewed. 24 THE WITNESS: Do we have the</p>	<p style="text-align: right;">Page 393</p> <p>1 A. Yes. 2 Q. Where are those comments 3 regarding Saed's article in what you're 4 looking at? 5 A. There's nothing here. There's 6 also a letter from Dr. Saed when he sent the 7 paper back in with the comments from the 8 reviewers and his addressing of those 9 comments. This article has the changes that 10 the reviewer has recommended. 11 Q. Have you seen this other 12 document that has the peer reviewer comments? 13 A. I have. 14 Q. I'm sorry? 15 A. I have seen his letter. I 16 don't recall that it has all the specific 17 comments. It has what he's viewing as him 18 addressing the comments, but I don't know if 19 there are comments or -- 20 Q. Do you have that letter with 21 you? 22 A. I thought I had it. 23 MS. O'DELL: No. I mean, I 24 think there may be some confusion on</p>

<p style="text-align: right;">Page 394</p> <p>1 that point. 2 BY MR. KLATT: 3 Q. Well, if there's anything else 4 regarding Dr. Saed that you've reviewed that 5 you haven't brought here and marked as an 6 exhibit, we'd request that, please. 7 A. Okay. 8 Q. Is that fine with you? 9 A. Yes. 10 Q. Now, looking at Dr. Saed's 11 manuscript that's been marked as Exhibit 4, 12 I'm going to turn you to -- 13 THE WITNESS: Do I have my own 14 copy of that? Yes, here it is. 15 BY MR. KLATT: 16 Q. I'm going to turn you to 17 page 12 of Exhibit 4. 18 A. Yeah. 19 Q. And do you see down at the 20 bottom of the page, it says "Conflict of 21 Interest"? 22 A. Yes. 23 Q. It says, "The corresponding 24 author, Dr. Ghassam Saed, acted as a</p>	<p style="text-align: right;">Page 396</p> <p>1 listed here? 2 A. Beasley Allen isn't listed here 3 either. 4 MS. O'DELL: Object to form. 5 A. It just says he received a 6 consulting fee. So I don't know where else 7 the money -- what other money he used. 8 BY MR. KLATT: 9 Q. But Beasley Allen isn't even 10 listed here, as you said, as a source of the 11 money for his work, correct? 12 MS. O'DELL: Object to the 13 form. 14 A. That's correct. 15 BY MR. KLATT: 16 Q. Okay. This isn't an adequate 17 conflict of interest disclosure, is it? 18 MS. O'DELL: Object to the 19 form. If you know. Don't guess. 20 A. I'm assuming that this is the 21 conflict of interest that they requested from 22 Reproductive Scientists [sic], and if they 23 accept it, then I consider it adequate. 24</p>
<p style="text-align: right;">Page 395</p> <p>1 consultant regarding this topic for a fee, 2 otherwise, the authors declared that there 3 are no conflicts of interest." 4 There's no disclosure there 5 that Dr. Saed's involved in litigation on 6 behalf of plaintiffs in talc ovarian cancer 7 cases, is there? 8 MS. O'DELL: Object to the 9 form. 10 A. My assumption is that what 11 Reproductive Scientists [sic] requested be 12 disclosed is what is stated here. And so 13 this is what it says. 14 BY MR. KLATT: 15 Q. Who paid the fee to Dr. Saed 16 for doing this work? 17 A. This particularly doesn't say. 18 I'm assuming that attorneys paid the fee. 19 Q. Do you know who paid? 20 A. I believe that in support of 21 some of this data -- of this research that he 22 received money from Beasley Allen. 23 Q. Okay. Other than Beasley 24 Allen, what contributors to this work are</p>	<p style="text-align: right;">Page 397</p> <p>1 BY MR. KLATT: 2 Q. So whatever the journal says is 3 adequate is adequate in your mind? 4 MS. O'DELL: Object to the 5 form. 6 BY MR. KLATT: 7 Q. Is that what you're saying? 8 A. I'm saying that as far as -- 9 this is what's disclosed. The journal 10 accepted the article. I'm assuming they 11 considered it was adequate disclosure. 12 Q. But if you're a physician, a 13 gynecologic oncologist out there in the 14 field, not involved in the talc ovarian 15 cancer litigation and you ultimately read 16 Dr. Saed's paper in Reproductive Scientists 17 [sic], aren't you going to want to know that 18 he was a paid witness for the plaintiffs in 19 that litigation? 20 MS. O'DELL: Object to the 21 form. 22 BY MR. KLATT: 23 Q. That's something you'd want to 24 know, isn't it?</p>

<p style="text-align: right;">Page 398</p> <p>1 MS. O'DELL: Object to the 2 form. 3 A. If I had questions about 4 exactly where the money came from, I would 5 call Dr. Saed and ask him. 6 BY MR. KLATT: 7 Q. Have you ever done that for any 8 article you've read in a journal? 9 A. I haven't. 10 Q. What do you know about the 11 Journal of Reproductive Sciences? 12 A. I don't know that much about 13 it. It's not a journal that I routinely 14 read. 15 Q. And as a gynecologic 16 oncologist, there's a certain set of journals 17 that you routinely review, correct? 18 A. Yes. 19 MS. O'DELL: Object to the 20 form. 21 BY MR. KLATT: 22 Q. And Reproductive Sciences is 23 not one of those, right? 24 A. It is not one of those.</p>	<p style="text-align: right;">Page 400</p> <p>1 A. In talcum-based body products, 2 my concerns for carcinogenesis are platy 3 talc, fibrous talc, asbestos, heavy metal, 4 specifically the ones that have been found, 5 nickel, chromium and cobalt and inflammation 6 from the fragrances, which I know that 7 inflammation is associated with ovarian 8 cancer and so I have concerns about all of 9 those. 10 Q. Well, having concerns is one 11 thing, but testifying based on a reasonable 12 degree of medical certainty that these things 13 are, in fact, a cause of ovarian cancer is a 14 different thing. So is it your opinion that 15 all of these items, platy talc, fibrous talc, 16 asbestos, nickel, chromium, cobalt and 17 fragrance are contributing causes of ovarian 18 cancer in women who use talc-based body 19 powder products? 20 MS. O'DELL: Object to the 21 form. 22 A. It's my opinion that 23 talcum-based -- perineum use of talcum-based 24 body products causes ovarian cancer in some</p>
<p style="text-align: right;">Page 399</p> <p>1 Q. Had you ever heard of it 2 before? 3 A. I can't tell you if I've ever 4 heard of it. I've heard of lots of journals 5 over the years and I don't remember all of 6 them. 7 Q. You don't remember of ever 8 hearing of Reproductive Sciences before you 9 saw Exhibit 4, correct? 10 A. I can't recall. 11 Q. Now, earlier, you said in 12 response to Ms. Brown's questions, that 13 things that you feel like may be playing a 14 role in talc-based body powder products and 15 ovarian cancer, if I got it right, were platy 16 talc; is that right? 17 MS. O'DELL: Object to the 18 form. If you're going to go -- I'll 19 object each time, but I object to the 20 preparatory language. 21 BY MR. KLATT: 22 Q. What things in talc-based body 23 powder products do you think cause ovarian 24 cancer?</p>	<p style="text-align: right;">Page 401</p> <p>1 women and increases the risk in all. When I 2 look to see what is in it that could be 3 dangerous, potentially dangerous to women, I 4 see some things that are known to be 5 carcinogenic, such as fibrous talc and 6 asbestos and heavy metals. I see some things 7 that are possibly carcinogenic, such as platy 8 talc, and I see fragrances that are known to 9 be irritating and causing inflammation. 10 BY MR. KLATT: 11 Q. Do you think any one of those 12 things by itself is capable of causing 13 ovarian cancer in women who use talc-based 14 body powder products? 15 A. I didn't evaluate the data that 16 way and I don't look at the product that way. 17 I'm looking at it as a whole. 18 Q. So if you testify in the 19 hearing of Judge Wolfson this year and she 20 asks you, because judges can ask witnesses 21 questions, which one of these items that 22 you've mentioned are capable by themselves of 23 causing ovarian cancer in women using 24 talc-based body powder products, you're going</p>

<p style="text-align: right;">Page 402</p> <p>1 to tell her you can't tell her which one of 2 these is capable by itself? 3 MS. O'DELL: Object to the 4 form, misstates her testimony. 5 A. I'm going to tell her just what 6 I said, that I evaluated the product as a 7 whole and I found evidence of multiple 8 carcinogenic, possibly carcinogenic and 9 inflammatory substances that could account 10 for that. Because they're all in the 11 product, I can't separate them out and say 12 which one is causing it. 13 BY MR. KLATT: 14 Q. And you can just say that they 15 possibly cause it, correct, not that they 16 probably cause it? 17 MS. O'DELL: Object to the 18 form, misstates her testimony. 19 BY MR. KLATT: 20 Q. You just said "possibly." 21 Didn't I understand that? 22 MS. O'DELL: Object to the 23 form. That's not what she said. 24</p>	<p style="text-align: right;">Page 404</p> <p>1 understand. 2 A. So let me list them again. 3 Platy talc has been determined to be possibly 4 carcinogenic, asbestos has been determined to 5 be carcinogenic, fibrous talc has been 6 determined to be carcinogenic, nickel and 7 chromium are -- have been determined to be 8 carcinogenic, cobalt has been determined to 9 be possibly carcinogenic, and the 10 fragrances -- some of the substances in the 11 fragrance are known to be inflammatory or 12 cause -- inflammatory or irritating. 13 And therefore, when I look at 14 the product of the whole, with all of that 15 spectrum of stuff in it, things in it, that 16 at the very least some are, the fragrances 17 are inflammatory and/or irritating and at the 18 very most, several are known to be 19 carcinogenic, that it's the combination of 20 that that increases the risk of ovarian 21 cancer in women who use perineal talcum 22 powder product. 23 BY MR. KLATT: 24 Q. Are any of these things that</p>
<p style="text-align: right;">Page 403</p> <p>1 BY MR. KLATT: 2 Q. Let's read it back. I think 3 you just said "possibly cause," correct? 4 MS. O'DELL: Object to the 5 form. 6 A. No, that's not what I said. I 7 said there are multiple that are 8 carcinogenic, possibly carcinogenic and 9 inflammatory. 10 BY MR. KLATT: 11 Q. So you're saying they're 12 possibly carcinogenic -- 13 A. No, I'm saying some of the 14 agents -- 15 Q. Let me finish -- not probably 16 carcinogenic, correct? 17 MS. O'DELL: Excuse me. 18 A. No. 19 MS. O'DELL: Excuse me, let me 20 object. Object to the testimony -- 21 excuse me, object to the question 22 because it misrepresents her 23 testimony. 24 You may answer if you</p>	<p style="text-align: right;">Page 405</p> <p>1 you've listed by themselves capable of 2 causing ovarian cancer in women who use 3 talc-based body powder products? 4 A. I'm not aware that anybody has 5 looked at using any of those things by 6 themselves to cause -- to assess the risk of 7 ovarian cancer. And since the product 8 contains all of them, I don't know how that 9 can be evaluated. 10 Q. So if you evaluated the 11 talc-based body powder product as a whole 12 with all these things in them, you weren't 13 just evaluating Imerys raw talc by itself, 14 correct? 15 MS. O'DELL: Object to the 16 form. 17 A. I was evaluating the product. 18 BY MR. KLATT: 19 Q. The product as used by women? 20 A. The product as used by women -- 21 the product as used by women. 22 Q. Which is the product that sold 23 off the shelf, correct? 24 MS. O'DELL: Object to the</p>

<p style="text-align: right;">Page 406</p> <p>1 form.</p> <p>2 A. The product that women could</p> <p>3 obtain to use on their perineum.</p> <p>4 BY MR. KLATT:</p> <p>5 Q. From retail stores, correct?</p> <p>6 MS. O'DELL: Object to the</p> <p>7 form.</p> <p>8 A. From wherever they get it.</p> <p>9 BY MR. KLATT:</p> <p>10 Q. And you understand Imerys</p> <p>11 doesn't sell any talc directly to women?</p> <p>12 A. I understand that.</p> <p>13 Q. And you understand fragrance is</p> <p>14 added after the talc leaves Imerys'</p> <p>15 possession?</p> <p>16 A. I understand that.</p> <p>17 Q. Do any and all forms of</p> <p>18 inflammation cause or contribute to ovarian</p> <p>19 cancer?</p> <p>20 A. In the studies on inflammation</p> <p>21 in ovarian cancer, it's -- and most cancers</p> <p>22 and inflammation, it's the concern of chronic</p> <p>23 inflammation. T cells, lymphocytes, macro</p> <p>24 fascias causing changes in the oxidation</p>	<p style="text-align: right;">Page 408</p> <p>1 A. There's never been any evidence</p> <p>2 of that, that I'm aware of.</p> <p>3 Q. When you -- you've done</p> <p>4 abdominal surgeries on hundreds, if not maybe</p> <p>5 even thousands of women in your career,</p> <p>6 correct?</p> <p>7 A. Yes.</p> <p>8 Q. Now, that surgery itself can</p> <p>9 cause fibrosis, inflammation and adhesions,</p> <p>10 correct?</p> <p>11 A. That's correct.</p> <p>12 Q. And those adhesions can be</p> <p>13 long-term complications for women, correct?</p> <p>14 A. Yes.</p> <p>15 Q. And that's a form of</p> <p>16 inflammation, correct?</p> <p>17 A. It's a form of acute</p> <p>18 inflammation that leads to a scar or</p> <p>19 fibrosis.</p> <p>20 Q. And that's exactly what talc</p> <p>21 leads to, correct?</p> <p>22 MS. O'DELL: Object to the</p> <p>23 form.</p> <p>24 A. There's not evidence of chronic</p>
<p style="text-align: right;">Page 407</p> <p>1 making free -- oxygen free radicals that can</p> <p>2 cause changes in the DNA. Not so much</p> <p>3 concerned about acute inflammation, but</p> <p>4 chronic inflammation.</p> <p>5 Q. Do all forms of chronic</p> <p>6 inflammation cause ovarian cancer?</p> <p>7 A. I'm not sure what forms of</p> <p>8 chronic inflammation you're asking about.</p> <p>9 Q. Well, are you saying that</p> <p>10 chronic inflammation inevitably can cause</p> <p>11 ovarian cancer?</p> <p>12 A. Chronic inflammation is a cause</p> <p>13 of ovarian cancer. You could have chronic</p> <p>14 inflammation and not get ovarian cancer.</p> <p>15 Q. Are you aware that corn</p> <p>16 starch-based body powder can cause</p> <p>17 granulomas, adhesions, fibrous tissue</p> <p>18 reactions and it's been banned by the FDA</p> <p>19 from surgical gloves and from patient</p> <p>20 examination gloves?</p> <p>21 A. I am aware of that.</p> <p>22 Q. Does the granulomas and</p> <p>23 adhesions and fibrosis that corn starch</p> <p>24 causes in patients cause ovarian cancer?</p>	<p style="text-align: right;">Page 409</p> <p>1 inflammation in adhesions secondary to</p> <p>2 surgery. There's an acute reaction and</p> <p>3 change and then fibrosis can occur, and</p> <p>4 that's what adhesions are, are fibrosis.</p> <p>5 BY MR. KLATT:</p> <p>6 Q. And that's what happens when</p> <p>7 talc in sufficient amounts is placed inside</p> <p>8 the body, the exact same thing, correct,</p> <p>9 Dr. Wolf?</p> <p>10 MS. O'DELL: Object to the</p> <p>11 form.</p> <p>12 A. It's one of the things that can</p> <p>13 happen when talc is placed inside the body.</p> <p>14 BY MR. KLATT:</p> <p>15 Q. Well, is there anything else</p> <p>16 other than that type of tissue reaction that</p> <p>17 talc can cause?</p> <p>18 MS. O'DELL: Object to the</p> <p>19 form.</p> <p>20 A. Yes. When talcum powder --</p> <p>21 when talc was placed, in an animal study, in</p> <p>22 the bursa of rat's ovaries, there was</p> <p>23 proliferation and precancerous changes in the</p> <p>24 ovaries.</p>

<p style="text-align: right;">Page 410</p> <p>1 BY MR. KLATT: 2 Q. Did those animals develop 3 ovarian cancer? 4 A. They did not. But they were 5 sacrificed in a short period of time. 6 Q. Can you name for me a single 7 animal study that you've ever seen, where 8 talc caused ovarian cancer in the animals? 9 A. I cannot. 10 Q. Can you name -- in fact, can 11 you name for me any animal study you've ever 12 seen, where asbestos put in animals caused 13 ovarian cancer? 14 MS. O'DELL: Object to the 15 form. 16 A. So ovarian cancer is quite rare 17 in most animals and so it's very difficult to 18 have an animal model of something that causes 19 ovarian cancer. 20 BY MR. KLATT: 21 Q. You know there's animal models 22 of peritoneal mesothelioma due to asbestos, 23 correct? 24 A. I do.</p>	<p style="text-align: right;">Page 412</p> <p>1 ovarian cancer? 2 MS. O'DELL: Object to the 3 form. 4 A. Are you asking about my 5 anecdotal experience? 6 BY MR. KLATT: 7 Q. No, I'm asking you for the 8 medical evidence that you know, that these 9 types of long-term adhesions resulting from 10 surgery itself don't cause ovarian cancer in 11 your patients? 12 A. I'm not aware of any literature 13 that suggests or supports that. 14 Q. Has it ever been studied? 15 A. I'm not aware of any studies 16 that have been published about that. 17 Q. Well, if it hasn't been 18 studied, you can't say it doesn't cause 19 ovarian cancer, can you? 20 MS. O'DELL: Object to the 21 form. 22 BY MR. KLATT: 23 Q. You just don't know? 24 MS. O'DELL: Object to the</p>
<p style="text-align: right;">Page 411</p> <p>1 Q. Are there animal models that 2 show that asbestos instilled in animals' 3 abdominal cavities can cause ovarian cancer? 4 A. Not that I'm aware of. 5 Q. Do you warn women before you do 6 surgery on them, that your surgery can cause 7 inflammation and adhesion -- long-term 8 adhesion formation that could cause ovarian 9 cancer? 10 MS. O'DELL: Object to the 11 form. 12 A. I inform my patients that 13 surgery can cause inflammation and adhesions. 14 BY MR. KLATT: 15 Q. Can that cause ovarian cancer? 16 A. Not the adhesions that are 17 formed from the acute inflammation from 18 surgery. I would also say that 90-plus 19 percent of my patients, their ovaries come 20 out when I operate on them. 21 Q. How do you know that these 22 long-term adhesions that result from 23 abdominal surgery that you've done on 24 hundreds of patients doesn't result in</p>	<p style="text-align: right;">Page 413</p> <p>1 form. 2 A. I haven't seen any studies 3 about it. 4 BY MR. KLATT: 5 Q. So if something is not studied, 6 that means it doesn't occur? 7 MS. O'DELL: Object to the 8 form. 9 A. That's not what I said. 10 BY MR. KLATT: 11 Q. Right. Simply because there's 12 no studies doesn't prove that adhesions after 13 surgery don't cause ovarian cancer, correct? 14 MS. O'DELL: Object to the 15 form. 16 BY MR. KLATT: 17 Q. You'd have to do studies to 18 know that. 19 MS. O'DELL: Excuse me. Object 20 to the form. 21 A. I don't believe those are 22 studies that could be done. 23 BY MR. KLATT: 24 Q. So there are no such studies</p>

<p style="text-align: right;">Page 414</p> <p>1 that you're aware of, correct?</p> <p>2 A. Not that I'm aware of.</p> <p>3 Q. You cited about 20 Imerys</p> <p>4 documents in -- as something that were</p> <p>5 materials that you considered.</p> <p>6 A. Yes.</p> <p>7 Q. Is that correct?</p> <p>8 A. Uh-huh.</p> <p>9 Q. Were you give a much larger set</p> <p>10 of Imerys documents and you picked those 20</p> <p>11 or were those 20 handpicked for you by the</p> <p>12 lawyers?</p> <p>13 MS. O'DELL: Object to the</p> <p>14 form.</p> <p>15 A. Those documents were provided</p> <p>16 to me by the lawyers.</p> <p>17 BY MR. KLATT:</p> <p>18 Q. So you didn't look at a much</p> <p>19 larger set of Imerys documents yourself and</p> <p>20 select those 20 yourself, correct?</p> <p>21 A. The one that -- ones that are</p> <p>22 listed on my contributing data list are the</p> <p>23 ones that I saw.</p> <p>24 Q. The only ones you saw, correct?</p>	<p style="text-align: right;">Page 416</p> <p>1 who the company -- what the company it came</p> <p>2 from, and the mine, if it's -- if it's noted,</p> <p>3 and any comments.</p> <p>4 Q. But my point is, you don't know</p> <p>5 that any of these talc samples ended up in</p> <p>6 any body powder products, correct?</p> <p>7 A. I don't have that information</p> <p>8 on these.</p> <p>9 MS. O'DELL: Object to form.</p> <p>10 BY MR. KLATT:</p> <p>11 Q. I'm sorry?</p> <p>12 A. I don't have that information</p> <p>13 on these charts.</p> <p>14 Q. Are you aware the Imerys</p> <p>15 supplies talc to many industries that have</p> <p>16 nothing to do with body powder?</p> <p>17 A. I am aware of that.</p> <p>18 Q. Do you understand that there's</p> <p>19 types of talc that are caused -- called</p> <p>20 industrial talc that are not used for</p> <p>21 personal use or cosmetic products?</p> <p>22 A. Yes.</p> <p>23 Q. Do you have any idea which one</p> <p>24 of these on Exhibit 47 might fall into the</p>
<p style="text-align: right;">Page 415</p> <p>1 A. Yes.</p> <p>2 Q. And those were picked by the</p> <p>3 lawyers and not by you?</p> <p>4 MS. O'DELL: Object to form.</p> <p>5 A. Those were given to me by the</p> <p>6 lawyers.</p> <p>7 BY MR. KLATT:</p> <p>8 Q. You said earlier -- you</p> <p>9 referred to Julie Pier, an Imerys scientist,</p> <p>10 her Exhibit 47 in her MDL deposition. Do you</p> <p>11 recall that?</p> <p>12 A. Yes.</p> <p>13 Q. You can't point to me to a</p> <p>14 single talc sample that she tested in</p> <p>15 Exhibit 47 that you can show me ended up in</p> <p>16 talc-based body powders, can you?</p> <p>17 MS. O'DELL: Object to the</p> <p>18 form.</p> <p>19 A. Can I look at it?</p> <p>20 BY MR. KLATT:</p> <p>21 Q. Sure.</p> <p>22 A. What I see on here is the date,</p> <p>23 what the material was, who did the testing,</p> <p>24 what the sample was, what the test revealed,</p>	<p style="text-align: right;">Page 417</p> <p>1 industrial talc category rather than the</p> <p>2 cosmetic talc category?</p> <p>3 MS. O'DELL: Object to the</p> <p>4 form.</p> <p>5 A. It doesn't say on this list</p> <p>6 where the talc falls in.</p> <p>7 BY MR. KLATT:</p> <p>8 Q. And on many of these tests,</p> <p>9 there's not even any asbestos identified at</p> <p>10 all, correct?</p> <p>11 A. On some of them.</p> <p>12 Q. Are you aware that certain</p> <p>13 types of asbestos are ubiquitous in the</p> <p>14 environment?</p> <p>15 MS. O'DELL: Object to the</p> <p>16 form.</p> <p>17 A. I am aware of that.</p> <p>18 BY MR. KLATT:</p> <p>19 Q. And you're aware that when talc</p> <p>20 is tested for asbestos, that there can be</p> <p>21 occasional asbestos particles on the test</p> <p>22 equipment itself, correct?</p> <p>23 MS. O'DELL: Object to the</p> <p>24 form. Don't guess. If you know --</p>

<p style="text-align: right;">Page 418</p> <p>1 A. I don't -- I mean, I don't know 2 that. I don't have evidence to support that. 3 BY MR. KLATT: 4 Q. Well, are you aware that in 5 various test methodologies testing talc to 6 see whether it has asbestos, that those 7 methods take into account that there may be 8 occasional contamination of the test 9 equipment by asbestos that has nothing to do 10 with the sample being tested? 11 MS. O'DELL: Object to the 12 form. 13 BY MR. KLATT: 14 Q. Are you aware of that? 15 MS. O'DELL: Object to the 16 form. 17 Don't speculate, Dr. Wolf. If 18 you know, please say so. If you 19 don't -- 20 A. I don't know. 21 BY MR. KLATT: 22 Q. If you turn over on the back of 23 page -- or second page of Exhibit 47 to 24 Ms. Pier's deposition.</p>	<p style="text-align: right;">Page 420</p> <p>1 BY MR. KLATT: 2 Q. Do you know what that means? 3 MS. O'DELL: Object to the 4 form. 5 A. I understand that using 6 whatever the ASTM method, that this finding 7 would be considered background levels. I 8 don't know if that's the same method that was 9 used to test this. 10 BY MR. KLATT: 11 Q. So just in summary, when you 12 cited Julie Pier's Exhibit 47 in your report, 13 you can't tell Judge Wilson that any of these 14 samples on Exhibit 47 ended up in Johnson & 15 Johnson baby powder or Shower to Shower, 16 correct? 17 MS. O'DELL: Object to the 18 form, assumes facts not in evidence. 19 A. I don't have that information. 20 BY MR. KLATT: 21 Q. Let me ask you about fragrance. 22 Can you rule out fragrance as the sole cause 23 of ovarian cancer in women who use talc-based 24 body powder products?</p>
<p style="text-align: right;">Page 419</p> <p>1 A. Yes. 2 Q. Do you see, for example, the 3 very last sample says, "finding 4 indistinguishable from background levels 5 determined using ASTM method D6620-00"? Do 6 you see that? 7 A. I see that. 8 Q. Do you have any idea what that 9 method is? 10 MS. O'DELL: Object to the 11 form. 12 A. Well, it's -- on the left side, 13 this says "Transmission Electron Microscope 14 Analysis." I don't know if that that's the 15 same as ASTM or not. 16 BY MR. KLATT: 17 Q. But do you understand what it 18 means when it says, "Finding 19 indistinguishable from background levels 20 determined using ASTM method D6620-00"? Do 21 you know what -- 22 MS. O'DELL: Excuse me. Object 23 to the form. 24</p>	<p style="text-align: right;">Page 421</p> <p>1 MS. O'DELL: Object to the 2 form. 3 A. I believe that fragrance that's 4 in the product is inflammatory and 5 irritating. I don't know of any evidence 6 that has studied that fragrance on its own, 7 as to whether on its own it causes ovarian 8 cancer or not, or if it were out of the 9 product it would cause ovarian cancer or not. 10 All I have is the information on the whole 11 product. 12 BY MR. KLATT: 13 Q. Do you know whether asbestos -- 14 high levels of asbestos in drinking water 15 causes ovarian cancer? 16 A. I don't believe that oral 17 ingestion has been shown to cause ovarian 18 cancer. 19 Q. So not any -- just any 20 exposures to asbestos cause ovarian cancer, 21 correct? 22 MS. O'DELL: Object to the 23 form. 24 A. So what I said was, that I</p>

<p style="text-align: right;">Page 422</p> <p>1 don't think oral ingestion has been shown to 2 cause ovarian cancer. 3 BY MR. KLATT: 4 Q. You're aware that there's been 5 studies of drinking -- of ovarian cancer in 6 women who consumed high levels of drinking 7 water for long periods of time that had high 8 levels of asbestos in it, correct? 9 MS. O'DELL: Object to the 10 form. 11 A. Restate that question. 12 BY MR. KLATT: 13 Q. Yeah, I'm sorry, that was a bad 14 question. You're aware there's been studies 15 done of women who consumed, over long periods 16 of time, drinking water with high levels of 17 asbestos in it and had no increased risk of 18 ovarian cancer, correct? 19 MS. O'DELL: Object to the 20 form. 21 A. I believe that oral intake of 22 asbestos has not been shown to increase the 23 risk of ovarian cancer. 24</p>	<p style="text-align: right;">Page 424</p> <p>1 BY MR. KLATT: 2 Q. Is that Exhibit 10? 3 A. It's Exhibit 13. It's here. I 4 thought it was here. 5 MS. O'DELL: This is my copy. 6 What do you have right here? 7 THE WITNESS: That's 8 Exhibit 13. 9 BY MR. KLATT: 10 Q. And is 13 the IARC talc 11 monograph or the IARC asbestos monograph? 12 A. It's the IARC talc one. 13 Q. Didn't we mark the -- we did? 14 MS. O'DELL: I don't see it. 15 MR. SILVER: Let's go off the 16 record while we look at the exhibit. 17 MS. O'DELL: Well, he's asking 18 the questions. We're looking here. 19 There's no need to go off the record, 20 I don't think. 21 MR. SILVER: Mike, let's do it. 22 MR. KLATT: Yeah, until we find 23 it, let's go off the record, because I 24 don't want to waste time looking for</p>
<p style="text-align: right;">Page 423</p> <p>1 BY MR. KLATT: 2 Q. Are you aware of any 3 nonoccupational studies of women living in 4 the vicinity of asbestos mines that show that 5 they had an increased risk of ovarian cancer? 6 A. I'm not aware of any data 7 that -- studies that show that women living 8 near mines, that mine asbestos or talcum 9 powder have an increased risk of ovarian 10 cancer. 11 Q. And, in fact, IARC said it 12 based its determination that there was a 13 potential link between asbestos and ovarian 14 cancer based only on cohort studies of high 15 occupational exposure in women, correct? 16 MS. O'DELL: Object to the 17 form. 18 If you need to look at the IARC 19 monograph, Dr. Wolf, we'll pull it 20 out. 21 A. So the IARC monograph, I know 22 that they looked at -- I can't remember what 23 -- if this is the right one or the other one. 24 Anyway.</p>	<p style="text-align: right;">Page 425</p> <p>1 it. I thought all the exhibits were 2 here. 3 MS. O'DELL: Are you going to 4 mark it? 5 MR. KLATT: No, I thought it's 6 already marked. 7 MS. BROWN: It's already 8 marked. 9 MS. O'DELL: Look right there. 10 THE WITNESS: That's Dr. Saed's 11 paper. This is my CV. This is my 12 report. What's this one? There it 13 is. 14 MS. O'DELL: There it is. 15 A. I knew it was there. 16 BY MR. KLATT: 17 Q. Would you look at page 256, and 18 let's identify for the record that you're 19 looking at Exhibit 10, which is the portion 20 of the IARC 2012 monograph dealing with 21 asbestos; is that correct? 22 A. Yes. 23 Q. And you see over in the 24 right-hand column of page 256, it says, "The</p>

<p style="text-align: right;">Page 426</p> <p>1 IARC Working Group noted a causal association 2 between exposure to asbestos and cancer of 3 the ovary was clearly established, based on 4 five strongly positive cohort mortality 5 studies of women with heavy occupational 6 exposure to asbestos." 7 Correct? 8 A. I see that. 9 Q. And do you -- can you flip over 10 to page 280 of that asbestos IARC monograph. 11 A. I don't have 280. I only go to 12 274. 13 MS. BROWN: I think your 14 counsel has the -- did we give you the 15 larger copy? 16 MS. O'DELL: You gave me this 17 copy. But it -- and it's definitely a 18 larger one, but let's see what -- 19 THE WITNESS: I got it. I got 20 page 280. 21 MS. BROWN: Here's another one 22 if you need another one. 23 BY MR. KLATT: 24 Q. Actually, that's my highlighted</p>	<p style="text-align: right;">Page 428</p> <p>1 BY MR. KLATT: 2 Q. I hand you what's marked as 3 Exhibit 22. 4 A. Page 280. 5 Q. And that is the full 2012 IARC 6 asbestos monograph that previously Exhibit 10 7 was an excerpt from -- 8 A. Yes. 9 Q. -- is that correct? 10 A. That's correct. 11 Q. And we established that on 12 page 256, they said that the link between 13 ovarian cancer and asbestos was based on 14 heavy occupational exposure to asbestos in 15 women, correct? 16 MS. O'DELL: Object to the 17 form. 18 BY MR. KLATT: 19 Q. Is that correct? 20 A. "The Working Group noted that a 21 causal association between exposure and 22 cancer in the" -- "to asbestos and cancer of 23 the ovary was clearly established, based on 24 five strongly positive cohort studies of</p>
<p style="text-align: right;">Page 427</p> <p>1 one. Can I give you this one? I just want 2 you to verify that you're looking at the same 3 thing that's been marked as Exhibit 10. 4 MS. O'DELL: Well, it's 5 actually not the same as Exhibit 10, 6 because what you provided to her is a 7 more comprehensive copy of the 8 monograph. 9 MR. KLATT: What I provided her 10 was the complete asbestos monograph 11 that Exhibit 10 is a part of. 12 MS. O'DELL: Well, that's my 13 point. 14 MR. KLATT: Okay. 15 MS. O'DELL: It's not the same 16 thing. And so just mark it. 17 MS. BROWN: Let's just mark it. 18 MR. KLATT: Yeah, let's mark 19 this as whatever our next exhibit is. 20 Do you know what that number 21 is? 22 (Deposition Exhibit 22 marked 23 for identification.) 24</p>	<p style="text-align: right;">Page 429</p> <p>1 women with heavy occupational exposure to 2 asbestos." 3 Yes. 4 Q. Now, flip over, if you would, 5 to page 280. 6 A. Okay. I'm there. 7 Q. I believe in the right-hand 8 column, this same exact working group, what 9 did they say about the relationship between 10 talc and ovarian cancer? 11 MS. O'DELL: I'm sorry, where 12 are you reading, Mike? On 280? 13 BY MR. KLATT: 14 Q. Do you see -- 15 MS. O'DELL: Are you reading -- 16 BY MR. KLATT: 17 Q. On page 280, it makes a comment 18 about -- 19 A. They're referencing the IARC 20 10. 21 Q. Yeah. And what does -- 22 A. "The association between 23 exposure to talc," that one? 24 Q. Yes. Can you read that into</p>

<p style="text-align: right;">Page 430</p> <p>1 the record?</p> <p>2 A. "Potential retrograde</p> <p>3 translocation to the ovarian epithelium and</p> <p>4 the development of ovarian cancer" --</p> <p>5 THE REPORTER: Hold on. You're</p> <p>6 going to have to back up --</p> <p>7 THE WITNESS: Okay.</p> <p>8 A. "The association between</p> <p>9 exposure to talc, potential retrograde</p> <p>10 translocation to the ovarian epithelium and</p> <p>11 the development of ovarian cancer is</p> <p>12 controversial."</p> <p>13 And this is referencing IARC</p> <p>14 2010 and this volume.</p> <p>15 Q. So while the IARC working group</p> <p>16 in 2012 said that asbestos exposure is</p> <p>17 related to ovarian cancer based on heavy</p> <p>18 occupational exposure, this same working</p> <p>19 group said the association between exposure</p> <p>20 to talc, retrograde translocation to the</p> <p>21 ovary and development of ovarian cancer is</p> <p>22 controversial, correct?</p> <p>23 MS. O'DELL: Object to the</p> <p>24 form.</p>	<p style="text-align: right;">Page 432</p> <p>1 to the ovary, have they?</p> <p>2 A. No. That they're carcinogenic,</p> <p>3 not specifically to the ovary.</p> <p>4 Q. The type of carcinogenicity</p> <p>5 they're referring to with those metals are</p> <p>6 when they're breathed in fumes, correct?</p> <p>7 A. I can't recall.</p> <p>8 Q. Are you aware that chromium is</p> <p>9 an essential trace heavy metal for nutrition?</p> <p>10 MS. O'DELL: Object to the</p> <p>11 form.</p> <p>12 A. I haven't studied nutrition in</p> <p>13 a long time. If I saw a list and saw it on</p> <p>14 there, I can't -- I don't know -- I'm not</p> <p>15 aware of that.</p> <p>16 BY MR. KLATT:</p> <p>17 Q. Chromium's contained in</p> <p>18 multivitamins, isn't it, Dr. Wolf?</p> <p>19 A. I don't know. I don't take</p> <p>20 multivitamins and I don't recommend them to</p> <p>21 my patients.</p> <p>22 Q. Chromium can help control your</p> <p>23 blood sugar, right?</p> <p>24 A. Are you telling me that</p>
<p style="text-align: right;">Page 431</p> <p>1 A. So that was the conclusion of</p> <p>2 the IARC 10 talc --</p> <p>3 BY MR. KLATT:</p> <p>4 Q. And it also refers to the IARC</p> <p>5 2012 asbestos monograph, correct?</p> <p>6 MS. O'DELL: Object to the</p> <p>7 form.</p> <p>8 BY MR. KLATT:</p> <p>9 Q. Correct?</p> <p>10 MS. O'DELL: Object to the</p> <p>11 form.</p> <p>12 A. It says "and this volume."</p> <p>13 BY MR. KLATT:</p> <p>14 Q. And this volume is what?</p> <p>15 A. 2012.</p> <p>16 MS. O'DELL: Object to the</p> <p>17 form.</p> <p>18 BY MR. KLATT:</p> <p>19 Q. The -- this volume that you</p> <p>20 just referred to is the 2012 IARC asbestos</p> <p>21 monograph, correct?</p> <p>22 A. That's correct.</p> <p>23 Q. IARC's never said that</p> <p>24 chromium, cobalt or nickel are carcinogenic</p>	<p style="text-align: right;">Page 433</p> <p>1 chromium is released from the pancreas to</p> <p>2 help control blood sugar?</p> <p>3 Q. Do you know what chromium does</p> <p>4 as an essential trace nutrient in the body?</p> <p>5 A. I don't.</p> <p>6 Q. Are you aware of any evidence</p> <p>7 that the chromium levels in the blood or</p> <p>8 tissue of women who use talc-based body</p> <p>9 powder exceeds that in women who never have</p> <p>10 used such products?</p> <p>11 A. I'm not aware that that study</p> <p>12 has been done.</p> <p>13 Q. So you're not aware of any</p> <p>14 evidence of that, correct?</p> <p>15 MS. O'DELL: Objection to the</p> <p>16 form.</p> <p>17 A. I'm not aware that any study</p> <p>18 like that has been performed.</p> <p>19 BY MR. KLATT:</p> <p>20 Q. Are you aware that cobalt is an</p> <p>21 essential part of vitamin B12?</p> <p>22 A. Yes.</p> <p>23 Q. You understand -- you know what</p> <p>24 the Krebs cycle is?</p>

<p style="text-align: right;">Page 434</p> <p>1 A. I do.</p> <p>2 Q. Do you know that cobalt plays a</p> <p>3 vital role in the Krebs cycle in the human</p> <p>4 body?</p> <p>5 A. It's also been shown to be</p> <p>6 carcinogenic, possibly carcinogenic.</p> <p>7 Q. Has IARC ever said that cobalt</p> <p>8 is possibly carcinogenic to the ovaries?</p> <p>9 A. Not specifically to the</p> <p>10 ovaries.</p> <p>11 Q. Are you aware of any evidence</p> <p>12 that the cobalt levels in the blood or tissue</p> <p>13 of women who use talc-based body powder</p> <p>14 exceeds that in the blood or tissues of women</p> <p>15 who have never used such body powders?</p> <p>16 A. I'm not aware of any studies</p> <p>17 that have been done to show that.</p> <p>18 Q. So you're not aware of any such</p> <p>19 evidence, correct?</p> <p>20 MS. O'DELL: Object to the</p> <p>21 form.</p> <p>22 A. I'm not aware of any studies</p> <p>23 that have looked at that.</p> <p>24</p>	<p style="text-align: right;">Page 436</p> <p>1 BY MR. KLATT:</p> <p>2 Q. So you know of no such</p> <p>3 evidence, correct?</p> <p>4 MS. O'DELL: Object to the</p> <p>5 form.</p> <p>6 A. I'm not aware of any</p> <p>7 evidence -- any study that's looked at that</p> <p>8 question.</p> <p>9 BY MR. KLATT:</p> <p>10 Q. Would you agree with me that</p> <p>11 foreign particles, other than talc that had</p> <p>12 nothing to do with talc or talc-based body</p> <p>13 powders, can be introduced into the female</p> <p>14 reproductive tract by the activities you</p> <p>15 listed earlier, intercourse, going to the</p> <p>16 bathroom, toilet paper, riding a bike,</p> <p>17 exercising, use of tampons, walking, all</p> <p>18 those activities can introduce non-talc</p> <p>19 foreign particles into the reproductive</p> <p>20 tract?</p> <p>21 A. If they're exposed to the</p> <p>22 perineal tissue, they could.</p> <p>23 Q. Are you aware that pathologists</p> <p>24 hired by these plaintiffs' lawyers have found</p>
<p style="text-align: right;">Page 435</p> <p>1 BY MR. KLATT:</p> <p>2 Q. Are you aware that nickel is</p> <p>3 found in nuts, dried beans, peas, soybeans,</p> <p>4 grains and chocolate?</p> <p>5 A. I'm not aware of that.</p> <p>6 Q. Are you aware that nickel is</p> <p>7 found in some multivitamins?</p> <p>8 MS. O'DELL: Object to the</p> <p>9 form.</p> <p>10 A. I don't look at the list of</p> <p>11 multivitamins, so I'm going to say I don't</p> <p>12 know.</p> <p>13 BY MR. KLATT:</p> <p>14 Q. Can you tell Judge Wolfson of</p> <p>15 any evidence you know of, that the levels of</p> <p>16 nickel in the blood or tissues of women who</p> <p>17 use talc-based body powders exceeds that in</p> <p>18 the blood or tissues of women who have never</p> <p>19 used such products?</p> <p>20 A. I'm not --</p> <p>21 MS. O'DELL: Excuse me. Object</p> <p>22 to the form.</p> <p>23 A. I'm not aware that any study of</p> <p>24 that nature has been performed.</p>	<p style="text-align: right;">Page 437</p> <p>1 hundreds of foreign particles that have</p> <p>2 nothing to do with talc-based body powders in</p> <p>3 the tissues of women who have ovarian cancer?</p> <p>4 MS. O'DELL: Object to the</p> <p>5 form.</p> <p>6 A. I'm not aware of that</p> <p>7 information.</p> <p>8 BY MR. KLATT:</p> <p>9 Q. Would that surprise you?</p> <p>10 A. It would not surprise me.</p> <p>11 Q. Why?</p> <p>12 A. Because I have multiple levels</p> <p>13 of evidence that inert particles can go from</p> <p>14 the vagina and reach the upper</p> <p>15 reproductive -- female reproductive tract.</p> <p>16 Q. Do you have any curiosity</p> <p>17 whether any of these inert particles that</p> <p>18 have nothing to do with talc-based body</p> <p>19 powders, might be responsible for</p> <p>20 inflammation that causes ovarian cancer?</p> <p>21 MS. O'DELL: Object to the</p> <p>22 form.</p> <p>23 A. If I had any evidence in an</p> <p>24 epidemiologic study or concerns that there's</p>

<p style="text-align: right;">Page 438</p> <p>1 anything else, I would definitely want it 2 studied. I've never seen an epidemiologic 3 study that suggested that toilet paper or any 4 of those other things you mentioned are 5 potentially associated with an increased risk 6 of ovarian cancer. 7 BY MR. KLATT: 8 Q. Are you aware in the '60s and 9 '70s, that tampons contained asbestos? 10 A. I wasn't aware of that. 11 MS. O'DELL: You were not or 12 you were? I'm sorry. 13 THE WITNESS: Was not. 14 BY MR. KLATT: 15 Q. Have you investigated -- had 16 any curiosity about investigating the 17 non-talc-based body powder particles that 18 women's reproductive tracts may be exposed to 19 that can result in ovarian cancer? 20 MS. O'DELL: Object to the 21 form. 22 A. I don't have any evidence that 23 there's anything else that's been suggested 24 that something else could cause ovarian</p>	<p style="text-align: right;">Page 440</p> <p>1 A. Most of it's eliminated out of 2 the body. In the vast majority of women, 3 some of it goes retrograde. 4 Q. And you talked about 5 endometriosis earlier, correct? 6 A. Yes. 7 Q. That's endometrial tissue 8 that's already in the uterus that may get 9 into the peritoneum, correct? 10 MS. O'DELL: Objection. 11 A. It's endometrial tissue that 12 during the time of menstruation goes back out 13 through the fallopian tubes and goes -- it 14 can go in the ovaries, in the pelvis, 15 anywhere in the abdomen. I've seen it in the 16 chest. 17 BY MR. KLATT: 18 Q. But that endometrial tissue 19 starts in the uterus, correct? 20 A. That's correct. 21 Q. That's halfway up the 22 reproductive tract to the ovaries, correct? 23 A. That's in the uterus. 24 Q. You're not aware of any sort of</p>
<p style="text-align: right;">Page 439</p> <p>1 cancer, that's introduced through the 2 perineum. 3 BY MR. KLATT: 4 Q. People just haven't looked at 5 it, correct? 6 MS. O'DELL: Object to the 7 form. 8 A. Generally, people look at a 9 question when they see something that happens 10 that suggests that there may be a 11 correlation. 12 BY MR. KLATT: 13 Q. But there's lots of things that 14 can cause cancer that haven't been studied 15 yet, correct? 16 MS. O'DELL: Object to the 17 form. 18 A. I don't know the answer to 19 that. 20 BY MR. KLATT: 21 Q. You would agree with me, that 22 during a woman's reproductive years, every 23 month she sheds the lining of her uterus and 24 it's eliminated out of the body, correct?</p>	<p style="text-align: right;">Page 441</p> <p>1 endometrial tissue coming from the external 2 genital area, moving up the vagina, across 3 the cervix into the uterus, correct? 4 A. Well, there isn't any 5 endometrial tissue in the vagina or the 6 cervix. 7 Q. That's my point. The tissue in 8 endometriosis starts in the uterus, correct? 9 A. Yes. 10 Q. The talc particles that women 11 apply when they apply talc, are applied 12 externally, correct? 13 A. That's correct. 14 Q. Okay. And so they're nowhere 15 near the uterus when they're applied, 16 correct? 17 MS. O'DELL: Object to the 18 form. 19 A. Define "near." 20 BY MR. KLATT: 21 Q. They're on the external genital 22 area, correct? 23 A. They're on the external genital 24 area.</p>

<p style="text-align: right;">Page 442</p> <p>1 Q. And they have the entire 2 vaginal canal between the external genital 3 area and then the cervix, correct? 4 A. Correct. 5 Q. And then they have to cross the 6 cervix, correct? 7 A. Yeah. 8 Q. Before they even get to the 9 uterus, correct? 10 A. That's correct. 11 Q. And they're still not to the 12 fallopian tubes or ovaries, right? 13 A. That's correct. 14 Q. And I understand that you 15 testified earlier today, that you don't know 16 of a single study that traced talc particles 17 placed externally and traced them up the 18 vaginal canal, across the cervix, through the 19 uterus, up the fallopian tubes to the 20 ovaries, correct? 21 MS. O'DELL: Object to the 22 form. 23 A. I'm aware of multiple studies 24 of other inert products that cross from the</p>	<p style="text-align: right;">Page 444</p> <p>1 THE VIDEOGRAPHER: Going off 2 the record. The time is 5:51 p.m. 3 (Recess taken from 5:51 p.m. to 4 5:52 p.m.) 5 THE VIDEOGRAPHER: Back on the 6 record. The time is 5:52 p.m. 7 BY MR. KLATT: 8 Q. Dr. Wolf, just a quick question 9 about your CV. I just want to make sure I'm 10 clear. Have you ever held the position of 11 full professor at an institution? 12 A. Yes. 13 Q. Okay. I just wasn't sure. And 14 that's listed on your CV; is that correct? 15 A. Yes. 16 Q. And are you still holding a 17 full professorship, or did you give that up 18 at some point? 19 A. I gave that up. 20 Q. When was that? 21 A. When I left Banner MD Anderson 22 in 2014. I haven't had an academic position 23 since then. 24 Q. And earlier, you said that you</p>
<p style="text-align: right;">Page 443</p> <p>1 genital area -- or the vagina, into the 2 ovaries and the pelvis. As -- since other 3 inert substances do cross that way, it makes 4 sense to me that talc or something else, 5 other things that we talked about, certainly 6 could also. 7 BY MR. KLATT: 8 Q. But none of those particles 9 that you just referred to were applied 10 externally, correct? 11 A. They were not applied 12 externally. 13 Q. And talc is, correct? 14 A. And talc is. But the vagina is 15 open to the outside. 16 Q. Any foreign particle, not just 17 talc? 18 A. Excuse me. Yes. Yes. 19 MR. KLATT: Can we go off the 20 record for just a second. I think I 21 have little, if anything, left. 22 MS. O'DELL: Okay. 23 MR. KLATT: I just want to look 24 through my notes real quick.</p>	<p style="text-align: right;">Page 445</p> <p>1 had seen inflammation when you operated on 2 women with ovarian cancer, I think? 3 MS. O'DELL: Object to form. 4 A. I have seen pathologic slides. 5 I look at all the slides of my patients with 6 ovarian cancer. And sometimes you see 7 inflammation in relationship with the cancer. 8 BY MR. KLATT: 9 Q. And cancer itself is capable of 10 causing inflammation, correct? 11 A. Cancer itself can cause 12 inflammation. 13 MR. KLATT: I think that's all 14 the questions I have. 15 MS. O'DELL: Let's go off the 16 record. 17 THE VIDEOGRAPHER: Going off 18 the record. The time is 5:54 p.m. 19 (Recess taken from 5:54 p.m. to 20 6:16 p.m.) 21 THE VIDEOGRAPHER: Back on the 22 record. The time is 6:16 p.m. 23 24</p>

<p style="text-align: right;">Page 446</p> <p>1 EXAMINATION</p> <p>2 BY MS. O'DELL:</p> <p>3 Q. Dr. Wolf, just a few questions</p> <p>4 for you. You were shown two exhibits today,</p> <p>5 Exhibit 20 and Exhibit 21, from a website</p> <p>6 from a company that you were formerly</p> <p>7 employed by. Do you recall those questions</p> <p>8 and exhibits?</p> <p>9 A. Yes.</p> <p>10 Q. And have you had an opportunity</p> <p>11 to review these documents?</p> <p>12 A. Yes.</p> <p>13 Q. And is there anything that's</p> <p>14 contained in the materials that you -- that</p> <p>15 are in these documents that's inaccurate?</p> <p>16 A. No.</p> <p>17 Q. Is there anything about what</p> <p>18 was written here that's inconsistent with any</p> <p>19 of the opinions that you've given in this</p> <p>20 litigation?</p> <p>21 A. No.</p> <p>22 Q. And in terms of the risk</p> <p>23 factors that you touched on in either of</p> <p>24 these two articles, are there any risk</p>	<p style="text-align: right;">Page 448</p> <p>1 Q. And J&J counsel purported to --</p> <p>2 or suggested that FDA's testing of talcum</p> <p>3 powder products, including J&J's talc, had</p> <p>4 resulted in a finding that there was no</p> <p>5 asbestos in baby powder. Do you recall that?</p> <p>6 MS. BROWN: Objection to the</p> <p>7 form.</p> <p>8 A. I recall that.</p> <p>9 BY MS. O'DELL:</p> <p>10 Q. All right. If you'll turn over</p> <p>11 to page 2 of Exhibit 9, did the FDA state</p> <p>12 that the testing that they performed was</p> <p>13 evidence that there was no asbestos in</p> <p>14 cosmetic talc?</p> <p>15 A. Under the results of the FDA</p> <p>16 survey and what they mean, it says they found</p> <p>17 no asbestos fibers or structures in any of</p> <p>18 the samples that they tested, to shorten it</p> <p>19 out. But the results were limited, because</p> <p>20 only four talc suppliers submitted samples,</p> <p>21 and by the number of products tested. The</p> <p>22 next sentence says, "While the FDA finds</p> <p>23 these results informative, they do not prove</p> <p>24 that most or all talc or talc-containing</p>
<p style="text-align: right;">Page 447</p> <p>1 factors other than family history or</p> <p>2 familial-related risk factors?</p> <p>3 A. In the "How to find the best</p> <p>4 doctor for ovarian cancer" article, I talk</p> <p>5 about familial risk factors, but don't list</p> <p>6 any of the other ones.</p> <p>7 Q. I'm sorry. So you don't</p> <p>8 address lifestyle risk factors such as --</p> <p>9 A. I don't.</p> <p>10 Q. -- as talc or any others?</p> <p>11 A. Or other hormonal risk factors</p> <p>12 or anything else.</p> <p>13 Q. You've talked today about</p> <p>14 talcum powder products. When you've referred</p> <p>15 to talcum powder products, what did you mean</p> <p>16 in your testimony?</p> <p>17 A. Johnson & Johnson baby powder</p> <p>18 and Shower to Shower.</p> <p>19 Q. You also were given a document</p> <p>20 by counsel for J&J. It was Exhibit No. 9.</p> <p>21 It's got a title and it says "Talc." It's</p> <p>22 from the FDA website. Do you have that in</p> <p>23 front of you?</p> <p>24 A. I do.</p>	<p style="text-align: right;">Page 449</p> <p>1 cosmetic products currently marketed in the</p> <p>2 United States are likely to be free of</p> <p>3 asbestos contamination."</p> <p>4 Q. J&J's counsel didn't read that</p> <p>5 sentence to you, did she?</p> <p>6 MS. BROWN: Objection to the</p> <p>7 form.</p> <p>8 A. No.</p> <p>9 BY MS. O'DELL:</p> <p>10 Q. You were also shown a -- what's</p> <p>11 called a PDQ from the National Cancer</p> <p>12 Institute website, Exhibit 18. Do you have</p> <p>13 that in front of you?</p> <p>14 A. I have it.</p> <p>15 Q. And you were asked questions</p> <p>16 about the section that dealt with talc. Do</p> <p>17 you recall that?</p> <p>18 A. Yes.</p> <p>19 Q. And if you'll turn to page 12</p> <p>20 and 13 of 18, there's a section on perineal</p> <p>21 talc exposure.</p> <p>22 A. Yes.</p> <p>23 Q. And what are the references</p> <p>24 that are cited in that section? What numbers</p>

<p style="text-align: right;">Page 450</p> <p>1 are they?</p> <p>2 A. The reference are numbers 41,</p> <p>3 42, 43, 44 and 45.</p> <p>4 Q. Do you need some water?</p> <p>5 A. Yeah, I need some more.</p> <p>6 Q. And if you'll turn to page 16</p> <p>7 of 18 of Exhibit 18, you'll see it lists</p> <p>8 there references 41 through 45.</p> <p>9 A. Yes.</p> <p>10 Q. And do those appear to be the</p> <p>11 references that the authors at NCI relied on</p> <p>12 in reaching their opinions regarding perineal</p> <p>13 talc use?</p> <p>14 A. Yes.</p> <p>15 Q. And do those include -- excuse</p> <p>16 me. Do those references include the broad</p> <p>17 cross section of evidence that you reviewed</p> <p>18 and considered in reaching your opinions in</p> <p>19 this case?</p> <p>20 MS. BROWN: Objection to the</p> <p>21 form.</p> <p>22 A. No.</p> <p>23 BY MS. O'DELL:</p> <p>24 Q. Are at least two of the five</p>	<p style="text-align: right;">Page 452</p> <p>1 experts regarding the appropriate methodology</p> <p>2 for testing asbestos in talc?</p> <p>3 MS. BROWN: Objection to the</p> <p>4 form.</p> <p>5 A. I would refer to other experts</p> <p>6 in that area.</p> <p>7 BY MS. O'DELL:</p> <p>8 Q. Would you -- would you defer</p> <p>9 to -- back up just a second.</p> <p>10 You were asked questions about</p> <p>11 Dr. Longo and Rigler's report in the MDL.</p> <p>12 A. Yes.</p> <p>13 Q. And you recall in Dr. Longo and</p> <p>14 Rigler's report, that they do perform a</p> <p>15 quantification or an estimate of the number</p> <p>16 of fibers in a particular bottle if there's a</p> <p>17 positive test. Do you recall those?</p> <p>18 A. Yes.</p> <p>19 MS. BROWN: Objection to the</p> <p>20 form.</p> <p>21 BY MS. O'DELL:</p> <p>22 Q. Would you defer to Dr. Longo</p> <p>23 and Dr. Rigler on calculations like that, in</p> <p>24 terms of the specific composition of a</p>
<p style="text-align: right;">Page 451</p> <p>1 references in early 2000s, I think 2000 and</p> <p>2 2003?</p> <p>3 A. 2003, 2013. Schildkraut, which</p> <p>4 is the newest one that they just added, 2016,</p> <p>5 2000, 2014.</p> <p>6 Q. Yes. And the references</p> <p>7 included here certainly do not cover all the</p> <p>8 material that you reviewed, considered,</p> <p>9 relied on in reaching your opinion, including</p> <p>10 other meta-analyses, the mechanistic data, et</p> <p>11 cetera?</p> <p>12 A. They do not include all of the</p> <p>13 data that I considered, and the most recent</p> <p>14 data that's even mentioned, as I said, is the</p> <p>15 2016 Schildkraut study.</p> <p>16 Q. Put that aside.</p> <p>17 You were asked a number of</p> <p>18 questions about asbestos testing, the type of</p> <p>19 testing, the methodology, whether it was</p> <p>20 transmission electron microscope or XRD, I</p> <p>21 think was asked of you. Do you recall those</p> <p>22 series of questions?</p> <p>23 A. I do.</p> <p>24 Q. And would you defer to other</p>	<p style="text-align: right;">Page 453</p> <p>1 specific bottle?</p> <p>2 MS. BROWN: Objection to the</p> <p>3 form.</p> <p>4 A. Yes.</p> <p>5 BY MS. O'DELL:</p> <p>6 Q. As a GYN oncologist,</p> <p>7 gynecologic oncologist, that's not something</p> <p>8 that you're offering opinions on or that</p> <p>9 would be within your expertise, correct?</p> <p>10 MS. BROWN: Form.</p> <p>11 A. That's not something I'm</p> <p>12 offering opinions on or is within my area of</p> <p>13 expertise.</p> <p>14 BY MS. O'DELL:</p> <p>15 Q. Okay. And you would not --</p> <p>16 would defer to Dr. Longo and Dr. Rigler on</p> <p>17 that point?</p> <p>18 A. I would refer to Dr. Longo and</p> <p>19 Dr. Rigler.</p> <p>20 Q. And in regard to questions you</p> <p>21 received about geology or deposits, talc</p> <p>22 deposits, would you defer to experts in</p> <p>23 geology on those particular matters?</p> <p>24 A. Yes.</p>

<p style="text-align: right;">Page 454</p> <p>1 MS. BROWN: Form. 2 MS. O'DELL: I don't know what 3 the form objection is, but let me see 4 if I can address it. 5 BY MS. O'DELL: 6 Q. Dr. Wolf, would you defer to 7 geology experts in terms of the composition 8 of the particular talc ore deposit? 9 A. A talc deposit? 10 Q. Yes. 11 A. Yes. 12 Q. You were also asked by 13 Mr. Klatt about adhesions and inflammation, 14 acute inflammation following a surgical 15 procedure. Is there any evidence -- any 16 suggestion that acute inflammation following 17 a surgical procedure causes ovarian cancer? 18 A. No. 19 Q. Let me -- you were asked some 20 questions about the IARC monograph, Volume 21 93, the 2010 monograph. It was marked as 22 Exhibit 13. 23 A. This one. Yes. 24 Q. And, Dr. Wolf, was IARC's</p>	<p style="text-align: right;">Page 456</p> <p>1 the literature, the totality of the evidence, 2 can platy talc cause inflammation? 3 A. Yes. 4 Q. Does inflammation in the ovary 5 cause ovarian cancer? 6 A. Chronic inflammation in the 7 ovary can cause changes that are associated 8 with ovarian cancer, yes. Chronic 9 inflammation can -- in the ovary can cause 10 ovarian cancer. 11 Q. You asked a number of questions 12 about asbestos and -- in terms of studies 13 involving millers and miners. Would you 14 explain to what ultimately would be a jury, 15 but initially will be Judge Wolfson, what the 16 possible routes of exposure are for, you 17 know, asbestos and fibrous talc reaching the 18 ovary in the context of talcum powder 19 products? 20 MS. BROWN: Objection to the 21 form. 22 A. So the possible routes are from 23 the perineum, through the open vagina and 24 open cervix and open fallopian tubes to the</p>
<p style="text-align: right;">Page 455</p> <p>1 examination of talc at the time they looked 2 at it in 2006, I believe it was, were they 3 considering talc containing asbestiform 4 fibers? 5 MR. KLATT: Objection, form. 6 BY MS. O'DELL: 7 Q. Let me just ask -- let me ask 8 you a different way, see if I can address the 9 objection. 10 Why don't you turn to page 277, 11 please. And, Dr. Wolf, what is the substance 12 that the IARC working group is considering in 13 the 2010 monograph? 14 A. Talc not containing asbestos 15 foreign fibers. 16 Q. In other words, the 2010 17 monograph purported not to address talc with 18 asbestos? 19 MS. BROWN: Objection, form. 20 MR. KLATT: Objection, form. 21 A. To investigate what they 22 thought or assumed was pure platy talc. 23 BY MS. O'DELL: 24 Q. Is -- based on your review of</p>	<p style="text-align: right;">Page 457</p> <p>1 ovaries. From inhalation, smaller particles 2 can be -- cross the membrane, be absorbed by 3 the stroma, get into the lymphatic or blood 4 system and get it that way. Fibrous 5 particles can pierce the lung in the diagram 6 and get into the perineal cavity that way. 7 BY MS. O'DELL: 8 Q. And is -- are those opinions 9 you've just expressed supported by the data 10 in the IARC monograph, the 2012 monograph? 11 A. Yes. 12 MR. KLATT: Objection, form. 13 BY MS. O'DELL: 14 Q. And did IARC conclude that when 15 asbestos and fibrous talc reached the 16 ovaries, they can cause ovarian cancer? 17 A. Yes. 18 Q. And IARC concluded that 19 asbestos and fibrous talc were known human 20 carcinogens? 21 A. Yes. 22 Q. You were asked a number of 23 questions about whether asbestos was 24 necessary in order to reach your opinions</p>

<p style="text-align: right;">Page 458</p> <p>1 about talcum powder products causing ovarian 2 cancer. You recall those questions? 3 A. Yes. 4 Q. And is asbestos, as a component 5 of talcum powder products, essential in order 6 for talcum powder, baby powder and Shower to 7 Shower causing ovarian cancer? 8 MS. BROWN: Objection to the 9 form of the question. 10 A. So a talcum powder product has 11 all of these substance and I assessed it as a 12 whole. Multiple of the substances are either 13 known to be carcinogenic or other substances 14 possibly carcinogenic or fragrances 15 irritating and inflammatory. I looked at the 16 product as a whole. 17 BY MS. O'DELL: 18 Q. If -- and you -- and in doing 19 that, looking at the product as a whole, was 20 it important to you to consider whether there 21 was a potent carcinogen such as asbestos in 22 the product? 23 MS. BROWN: Form. 24 A. It was information that added</p>	<p style="text-align: right;">Page 460</p> <p>1 MS. BROWN: Objection to the 2 form of the question. 3 BY MS. O'DELL: 4 Q. And did Dr. Longo find that 5 there was fibrous talc present in 41 out of 6 42 samples? 7 MS. BROWN: Objection. 8 A. She found fibrous talc in 41 of 9 42 samples. 10 THE REPORTER: Hold on a 11 second. I'm not hearing -- 12 THE WITNESS: I'm sorry. 13 A. She -- 14 MS. BROWN: I -- sorry. Go 15 ahead. 16 A. She found fibrous talc in 41 17 of -- 18 MS. BROWN: He. 19 A. He. I keep picturing a woman. 20 Fibrous talc in 41 of 42 samples. 21 MS. BROWN: And, Doctor, if you 22 wouldn't mind just giving me second to 23 object before you start answering -- 24 THE WITNESS: I'm sorry.</p>
<p style="text-align: right;">Page 459</p> <p>1 to my concerns about the product. But 2 knowing that platy talc can cause 3 inflammation and is possibly carcinogenic, as 4 per IARC, and that platy talc appears to be 5 almost universally, as per Longo's testing, 6 part of talcum powder product, 41 out of 42 7 samples that she tested, and that fibrous 8 talc is asbestos, a form of asbestos, the 9 other asbestos fibers, one way or the other, 10 just add to my concern. 11 BY MS. O'DELL: 12 Q. Yeah. You -- and just when you 13 were relying, I think you misspoke. You were 14 saying the 41 out of 42 samples in 15 Dr. Longo's testing and you referred to platy 16 talc. Did you mean to say that? 17 MS. BROWN: Objection to the 18 form. 19 A. No, I meant fibrous talc. 20 BY MS. O'DELL: 21 Q. And Dr. Longo tested Johnson & 22 Johnson historical samples for the presence 23 of fibrous talc? 24 A. That's correct.</p>	<p style="text-align: right;">Page 461</p> <p>1 MS. BROWN: -- it will make the 2 court reporter's job easier. 3 THE WITNESS: Sorry. 4 BY MS. O'DELL: 5 Q. And if you pulled any one 6 component that you've talked about today out 7 of the talcum powder products, would that 8 change your opinions? 9 A. No. 10 MS. O'DELL: That's all I have, 11 Dr. Wolf. Thank you. 12 MS. BROWN: Go off? 13 MR. KLATT: Yeah. 14 MS. BROWN: Can we go off for 15 one second? 16 THE VIDEOGRAPHER: Going off 17 the record. The time is 6:36 p.m. 18 (Recess taken from 6:36 p.m. to 19 6:44 p.m.) 20 THE VIDEOGRAPHER: Back on the 21 record. The time is 6:44 p.m. 22 FURTHER EXAMINATION 23 BY MS. BROWN: 24 Q. Dr. Wolf, you were just asked</p>

<p style="text-align: right;">Page 462</p> <p>1 some questions by counsel for plaintiffs 2 regarding Exhibits 20 and 21, articles that 3 you authored regarding ovarian cancer. Do 4 you recall those questions? 5 A. Yes. 6 Q. Okay. And you'd agree with me 7 that over the course of your career, you have 8 authored a number of articles, both in the 9 medical press and in the popular press, 10 regarding ovarian cancer, correct? 11 A. Yes. 12 Q. And you have never, over the 13 course of your entire career, published the 14 opinion that talc causes ovarian cancer, 15 correct? 16 A. I have not. 17 Q. And you have never, over the 18 course of your career, blogged or tweeted or 19 posted anything on any of the social media 20 accounts where you have a presence, that talc 21 causes ovarian cancer, correct? 22 A. I have not. 23 Q. And you have never spoken at 24 any symposia or conference and offered the</p>	<p style="text-align: right;">Page 464</p> <p>1 was in her testing. I don't remember the 2 word "quantification of asbestos." 3 BY MS. BROWN: 4 Q. So you are relying on 5 Dr. Longo's testing for how much asbestos is 6 in baby powder? 7 A. To interpret her findings. 8 MS. O'DELL: His findings. 9 A. His findings. I'm trying to 10 make Dr. Longo a woman. It's not working. 11 BY MS. BROWN: 12 Q. You -- in sitting here -- and 13 when you offered your opinion in this case, 14 though, you didn't have in mind a certain 15 amount of asbestos that was needed or found 16 in the baby powder to cause ovarian cancer, 17 right? 18 MS. O'DELL: Object to the 19 form. 20 A. Any amount of asbestos in baby 21 talcum powder product, I'm concerned about 22 causing ovarian cancer. 23 BY MS. BROWN: 24 Q. And if I understood your</p>
<p style="text-align: right;">Page 463</p> <p>1 opinion that talc causes ovarian cancer, 2 correct? 3 MS. O'DELL: Object to the 4 form. It's already been covered 5 previously today. 6 MS. BROWN: Form is the 7 objection. 8 A. Not that I recall. 9 BY MS. BROWN: 10 Q. You were asked some questions 11 regarding the work of Dr. Longo and 12 Dr. Rigler. Do you recall those? 13 A. Yes. 14 Q. And I assume you have not met 15 Dr. Longo; is that correct? 16 A. No, I have not. 17 Q. Okay. And you told counsel for 18 plaintiffs, that you are relying on 19 Dr. Longo's quantification of asbestos. Was 20 that your testimony? 21 MS. O'DELL: Object to the 22 form. 23 A. Quantification of -- to 24 understand how much of the -- what she found</p>	<p style="text-align: right;">Page 465</p> <p>1 testimony to plaintiffs' lawyer earlier, if 2 you took asbestos -- the asbestos that you 3 think is in baby powder, if you took it out, 4 you would still hold the opinion that baby 5 powder causes ovarian cancer; is that right? 6 A. Yes. 7 Q. And, in fact, that's your 8 opinion as it relates to any of the 9 components of baby powder that you believe 10 exists, such as platy talc, fibrous talc, 11 asbestos, heavy metals and fragrances, 12 correct? 13 MS. O'DELL: Object to the 14 form. 15 A. If I took any one of those out, 16 I think that talcum powder products would 17 still cause ovarian cancer. 18 BY MS. BROWN: 19 Q. And what if you took two out of 20 the five out, would you still hold the 21 opinion that powder products cause ovarian 22 cancer? 23 MS. O'DELL: Object to the 24 form, incomplete hypothetical.</p>

<p style="text-align: right;">Page 466</p> <p>1 A. If you took any one of them 2 out, I would still have the opinion that 3 talcum powder product causes ovarian cancer. 4 I don't know how you can take all of them out 5 and still have a talcum powder product. 6 BY MS. BROWN: 7 Q. Well, you understand that there 8 is -- talcum powder exists that does not 9 include fragrances, heavy metals, asbestos 10 and fibrous talc. Do you have that 11 understanding? 12 MS. O'DELL: Object to the 13 form. 14 A. I'm not sure that there's 15 talcum powder that doesn't have at least 16 fibrous talc. 17 BY MS. BROWN: 18 Q. And so are you of the opinion 19 that platy talc and fibrous talc alone cause 20 ovarian cancer? 21 MS. O'DELL: Object to the 22 form. 23 A. I'm of the opinion that talcum 24 powder product contains all of those</p>	<p style="text-align: right;">Page 468</p> <p>1 A. There isn't epidemiology 2 because -- because I don't know that the 3 talcum powder product in the epidemiology 4 left any of those out. 5 Q. So you issued a multipage 6 report in this case, right, Dr. Wolf? 7 A. Yes. 8 Q. And that report contains 9 numerous cites to epidemiology that looked at 10 people using cosmetic talcum powder, correct? 11 A. That's correct. 12 Q. Is it your testimony here today 13 that none of that epidemiology informs your 14 opinion about Johnson & Johnson baby powder 15 products? 16 A. That is not -- 17 MS. O'DELL: Excuse me. 18 A. -- my opinion. 19 MS. O'DELL: Object to the 20 form, misstates her testimony. 21 A. What my understanding of your 22 question was is, do I have epidemiologic 23 studies that show that if one -- any one of 24 those substances is left out of the product,</p>
<p style="text-align: right;">Page 467</p> <p>1 ingredients that we list and that it causes 2 ovarian cancer. 3 BY MS. BROWN: 4 Q. I'm with you on that. What I 5 want to know is, are you of the opinion that 6 platy talc and fibrous talc alone cause 7 ovarian cancer? 8 A. I'm of the opinion that platy 9 talc can cause cancer and fibrous talc is 10 considered a form of asbestos and can cause 11 cancer. And that those are two of the 12 products in talcum powder product, two of the 13 substances in talcum powder product. 14 I don't know of any evidence 15 that the product doesn't have all of the 16 substances that I've described, and I don't 17 know that I can make an opinion that says if 18 it just had this and this, it would or would 19 not cause cancer. 20 Q. And for your opinion, that if 21 you pulled out any one component of the 22 powder products, the product would still 23 cause ovarian cancer, do you rely on the same 24 epidemiology?</p>	<p style="text-align: right;">Page 469</p> <p>1 that it causes ovarian cancer. And what my 2 answer is, is that my understanding is that 3 all of the epidemiologic studies are looking 4 at the product as I understand it and so I 5 can't give -- I cannot refer to a study that 6 has the product without one of those. 7 BY MS. BROWN: 8 Q. And you were asked some 9 questions about the IARC monograph on 10 nonasbestiform talc. Do you remember that? 11 A. Yes. 12 Q. And many, if not most, of the 13 epidemiology studies that you cite in your 14 report are contained and considered within 15 the IARC monograph on nonasbestiform talc. 16 True? 17 MS. O'DELL: Object to the 18 form. 19 A. I believe that's not true 20 because the -- again, this was 2010 and many 21 of the references that I report are after 22 this was published and they were only 23 reviewing up to 2006 or 2007 when they wrote 24 this.</p>

<p style="text-align: right;">Page 470</p> <p>1 BY MS. BROWN: 2 Q. Sure. And for studies that 3 looked at talcum powder products prior to 4 2010, you have considered and relied on those 5 in your report as well? 6 A. Yes. 7 Q. And, in fact, the Penninkilampi 8 meta-analysis that you regard as high 9 quality, includes a majority of studies that 10 were considered by the IARC group in 2006, 11 correct? 12 MS. O'DELL: Object to the 13 form. 14 A. It definitely includes some of 15 those older studies. 16 MS. BROWN: I have no further 17 questions at this time. 18 MR. KLATT: I have a couple 19 more. 20 FURTHER EXAMINATION 21 BY MR. KLATT: 22 Q. Can you pull out Exhibit 9, 23 Dr. Wolf. 24 A. Exhibit 9, yes.</p>	<p style="text-align: right;">Page 472</p> <p>1 A. That's correct. 2 Q. Have you ever recommended to a 3 patient of yours who does not have ovarian 4 cancer yet, that she have her ovaries removed 5 because of long-term talc use? 6 A. No. 7 Q. Would you make that 8 recommendation in the future? 9 A. It would be a discussion that I 10 would have with the patient. Looking at all 11 of her risk factors, if her only risk factor 12 was talcum powder usage, I would just want 13 her to know that she's at an increased risk 14 and let her make the decision about that. 15 Q. Are you aware of any 16 professional -- 17 MS. O'DELL: Excuse me, Mike. 18 MR. KLATT: I'm sorry. 19 MS. O'DELL: I'm sorry. Were 20 you done, Dr. Wolf? 21 A. I mean, that's a tough 22 question. The challenge is there's no 23 screening for ovarian cancer, right? So if 24 you have someone who's at an increased risk,</p>
<p style="text-align: right;">Page 471</p> <p>1 Q. And Exhibit 9 is the document 2 that Ms. O'Dell discussed with you a few 3 minutes ago, where the FDA around 2009-2010, 4 tested both raw talc and off-the-shelf 5 talc-based body powder products, correct? 6 A. Yes. 7 Q. And I think you read a portion 8 where it said only four talc suppliers had 9 submitted their products to the FDA for 10 testing. Do you recall that? 11 A. Yes. 12 Q. Are you aware that my client, 13 Imerys, was one of the four that did submit 14 their talc for testing? And I'll just tell 15 you, in case you don't know, that Imerys is 16 the successor to Rio Tinto and Luzenac. And 17 are those talcs tested by the FDA in Exhibit 18 9? 19 A. Yes. 20 Q. And what did the FDA find about 21 whether there was asbestos in those talcs? 22 A. No evidence of asbestos. 23 Q. In either the Rio Tinto 24 Minerals/Luzenac America talc, correct?</p>	<p style="text-align: right;">Page 473</p> <p>1 you can't say, well, we'll look at you more 2 often, we'll test you more often. There's no 3 test to find ovarian cancer early. 4 On the other hand, the 5 generally accepted lifetime risk for ovarian 6 cancer to push a doctor to recommend 7 prophylactic surgery removal of the tubes and 8 ovaries, is a 10 percent or greater lifetime 9 risk. 10 BY MR. KLATT: 11 Q. And talc use doesn't confer 12 that level of use, correct? 13 A. It does not. 14 Q. Okay. And you're not aware of 15 any medical professional organization or 16 agency that has ever made the recommendation 17 that women who have used genital talc for a 18 certain period of time should consider having 19 their ovaries and fallopian tubes removed, 20 correct? 21 A. I am not aware of any. 22 Q. Can you show me one single 23 study, case report, case series, any type of 24 study at all, showing that a woman who used</p>

<p style="text-align: right;">Page 474</p> <p>1 Johnson & Johnson baby powder or Shower to 2 Shower product, had inflammation of her 3 reproductive tract as a result of that 4 powder? 5 MS. O'DELL: Objection to the 6 form. 7 A. I can't -- I can't show you a 8 paper that shows that. 9 BY MR. KLATT: 10 Q. You believe that talc can get 11 to the ovaries via inhalation, correct? 12 A. Yes. 13 Q. Are you aware that talc's 14 ubiquitous in the environment? 15 A. Yes. 16 Q. Are you aware that women just 17 walking around on city streets can breathe 18 talc particles in during the course of their 19 life? 20 MS. O'DELL: Objection to form. 21 A. I'm aware that talc is 22 ubiquitous to the environment. 23 BY MR. KLATT: 24 Q. Which means you can breathe it</p>	<p style="text-align: right;">Page 476</p> <p>1 Q. Sure. You've seen -- you've 2 read the IARC monograph, you know in indoor 3 air and outdoor air in urban areas, there's 4 concentrations of asbestos fibers just in the 5 air we breath. 6 MS. O'DELL: Objection to form. 7 A. I would have to test the air to 8 know for sure that there's asbestos fibers in 9 the air here. 10 BY MR. KLATT: 11 Q. You haven't seen that data in 12 the IARC monograph that you reviewed? 13 A. In this -- about the air in 14 this room, no. 15 Q. I'm talking about indoor air 16 and outdoor area in urban areas. You've seen 17 in the IARC monograph, that there's a certain 18 quantity of asbestos fibers in that air, 19 correct? 20 A. There is a certain amount of 21 asbestos fibers in the air. 22 Q. And so when you breathe that 23 air, you can inhale those asbestos fibers 24 and, according to you, they can end up in the</p>
<p style="text-align: right;">Page 475</p> <p>1 in every single breath you take, correct? 2 MS. O'DELL: Object to the 3 form. 4 A. I'm aware that talc is 5 ubiquitous to the environment. 6 BY MR. KLATT: 7 Q. And so since it's ubiquitous in 8 the environment and since you take a breath, 9 you know, many times a minute, you're 10 probably inhaling talc particles every time 11 you breath, or at least every minute you 12 breath, correct? 13 MS. O'DELL: Objection to the 14 form. 15 A. I don't have evidence to 16 support that. 17 BY MR. KLATT: 18 Q. Well, you -- and you know, for 19 example, that there's asbestos fibers in this 20 room as we sit here right now, don't you, Dr. 21 Wolf? 22 MS. O'DELL: Objection to form. 23 A. Do I know that for a fact? 24 BY MR. KLATT:</p>	<p style="text-align: right;">Page 477</p> <p>1 ovary, correct? 2 A. Yes. 3 Q. And the same with talc 4 particles, correct? 5 A. Yes. 6 Q. Didn't even necessarily come 7 from body powder, correct -- 8 MS. O'DELL: Objection, form. 9 BY MR. KLATT: 10 Q. -- just from the environment? 11 MS. O'DELL: Objection to the 12 form. 13 A. You can inhale it from the air 14 and it can get to the ovaries. 15 BY MR. KLATT: 16 Q. How long have you known 17 Margaret Thompson, who is sitting here today? 18 A. I met her about two -- a little 19 over two years ago. 20 Q. Okay. You've never seen or 21 been referred any patients by her; is that 22 correct? 23 A. No. 24 Q. Have you communicated with any</p>

<p style="text-align: right;">Page 478</p> <p>1 of the other plaintiffs' consultants by -- in 2 person, by phone, by e-mail, in any form or 3 fashion at all? 4 A. The only one I spoke with was 5 Dr. Saed. I spoke on the phone with him once 6 about, I'm going to say, a year or so ago. 7 Q. And what was the substance of 8 that conversation? 9 A. It was about his research. I 10 had questions about what he was doing. 11 Q. And what did you ask him? 12 A. I don't recall exactly. 13 Q. Did you keep notes? 14 A. I did not. 15 Q. How long was the phone call? 16 A. I think it was about a half an 17 hour. 18 Q. And when was that phone call? 19 MS. O'DELL: I think she just 20 said. 21 A. I think it was about a year 22 ago. I can see I was standing in Arizona, 23 which meant I was still working for Provista, 24 so it was sometime before I left there.</p>	<p style="text-align: right;">Page 480</p> <p>1 talked a little bit about the fact that he 2 worked in Detroit at Wayne State, where I 3 know the GYN oncologist, and we were friendly 4 about that. I told him I thought his 5 research was interesting and important. That 6 was it. 7 Q. Are any of the Wayne State 8 gynecologic oncologists you know coauthors of 9 Dr. Saed's paper? 10 A. Yes. Dr. Robert Morris. 11 Q. Have you talked to Dr. Morris 12 about this research? 13 A. I haven't spoken with 14 Dr. Morris about anything in a couple of 15 years. 16 Q. Have you communicated in any 17 form or fashion with any governmental 18 agencies about talc and ovarian cancer? 19 A. I have not. 20 Q. Did you keep any notes of your 21 discussion with Dr. Saed? Maybe I asked 22 that. 23 MS. O'DELL: Asked and 24 answered.</p>
<p style="text-align: right;">Page 479</p> <p>1 BY MR. KLATT: 2 Q. Which month would that have 3 been? 4 A. I don't know. 5 Q. When did you leave there? 6 A. My last working day there was 7 October 1st, but I hadn't been to Arizona for 8 months by then. 9 Q. October 1st of? 10 A. 2018. 11 Q. Okay. But you think it was 12 about a year ago that you spoke to him? 13 A. I do. 14 Q. Approximately January of 2018? 15 MS. O'DELL: Objection to form. 16 She's given her best estimate. 17 A. Approximately. 18 BY MR. KLATT: 19 Q. Can you tell me anything else 20 about the substance of what you talked about 21 with Dr. Saed on that phone call? 22 A. I asked him what research he 23 was doing, what he was looking at, what type 24 of cell lines, what was he looking for. We</p>	<p style="text-align: right;">Page 481</p> <p>1 A. I did not. 2 BY MR. KLATT: 3 Q. Did you ask Dr. Saed during 4 that phone call, who was funding his 5 experiments or work that he was doing? 6 A. I don't remember. 7 Q. What prompted that phone call? 8 A. Margaret and I spoke about that 9 he was doing some research and she asked him 10 would it be okay if I talked to him, and so I 11 called him. 12 Q. How long have you been a 13 gynecologic oncologist? 14 A. I finished my fellowship in 15 1995. 16 Q. Had you ever heard of Dr. Saed 17 before your discussion with Margaret 18 Thompson? 19 A. I had not. He's a Ph.D., so 20 it's not necessarily that I would know who he 21 was. 22 Q. Well, you've been an academic 23 gynecologic oncologist for decades, right? 24 A. Yes.</p>

<p style="text-align: right;">Page 482</p> <p>1 Q. You have never once heard of 2 Dr. Saed, correct? 3 A. I had not. 4 MR. KLATT: That's all the 5 questions I have. 6 MS. O'DELL: I just have one 7 question. 8 FURTHER EXAMINATION 9 BY MS. O'DELL: 10 Q. Dr. Wolf, are your opinions in 11 this case contained in your report and in the 12 deposition you've given here today? 13 A. Yes. 14 MS. O'DELL: That's all I have. 15 MS. BROWN: Just one final 16 question to that. 17 FURTHER EXAMINATION 18 BY MS. BROWN: 19 Q. One final question, Doctor. 20 You're not relying on any materials to form 21 your opinion that are not contained in your 22 report or were discussed or marked as 23 exhibits here today, correct? 24 A. My report, no, and my</p>	<p style="text-align: right;">Page 484</p> <p>1 record. 2 THE VIDEOGRAPHER: This 3 concludes the deposition of Dr. Judy 4 Wolf. Going off the record. The time 5 is 7:03 p.m. 6 (Deposition concluded at 7 7:03 p.m.) 8 ----- 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24</p>
<p style="text-align: right;">Page 483</p> <p>1 references, everything that's here today. 2 Nothing else. 3 Q. And for a housekeeping item, 4 are all of the binders on that table to your 5 left, are those documents on Exhibit B of 6 your report? 7 A. Yes. 8 Q. Nothing additional, right? 9 A. Nothing additional. 10 Q. And all of the binders on the 11 table are the references in your report? 12 A. The references and the 13 additional information that we provided 14 today. 15 Q. Okay. So with that, I don't 16 think it's necessary, unless anyone 17 disagrees, to mark all of the binders. 18 MS. BROWN: And I have no 19 further questions. Thanks. 20 MR. KLATT: As long as the 21 binders don't contain any highlighting 22 or notations. 23 THE WITNESS: Nothing. 24 MS. BROWN: We're off the</p>	<p style="text-align: right;">Page 485</p> <p>1 CERTIFICATE 2 3 I, MICHEAL A. JOHNSON, Registered 4 Diplomate Reporter and Certified Realtime 5 Reporter, do hereby certify that prior to the 6 commencement of the examination, JUDITH K. 7 WOLF, M.D. was duly sworn by me to testify to 8 the truth, the whole truth and nothing but 9 the truth. 10 I DO FURTHER CERTIFY that the 11 foregoing is a verbatim transcript of the 12 testimony as taken stenographically by and 13 before me at the time, place and on the date 14 hereinbefore set forth, to the best of my 15 ability. 16 17 I DO FURTHER CERTIFY that I am 18 neither a relative nor employee nor attorney 19 nor counsel of any of the parties to this 20 action, and that I am neither a relative nor 21 employee of such attorney or counsel, and 22 that I am not financially interested in the 23 action. 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 MICHEAL A. JOHNSON, NCRA Registered Diplomate Reporter NCRA Certified Realtime Reporter Certified LiveNote Reporter Dated: January 8, 2019</p>

Judith K. Wolf, M.D.

<div style="text-align: right; font-weight: bold;">Page 486</div> <div style="margin-top: 10px;"> <p style="text-align: center;">ACKNOWLEDGMENT OF DEPONENT</p> <p>I, _____, do hereby certify that I have read the foregoing pages and that the same is a correct transcription of the answers given by me to the questions therein propounded, except for the corrections or changes in form or substance, if any, noted in the attached Errata Sheet.</p> <p>_____ JUDITH K. WOLF, M.D. DATE</p> <p>Subscribed and sworn to before me this _____ day of _____, 20 ____.</p> <p>My commission expires: _____</p> <p>Notary Public</p> </div>	<div style="text-align: right; font-weight: bold;">Page 488</div> <div style="margin-top: 10px;"> <p style="text-align: center;">----- LAWYER'S NOTES -----</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 15%;">PAGE</th> <th style="width: 15%;">LINE</th> <th></th> </tr> </thead> <tbody> <tr><td>1</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>2</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>3</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>4</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>5</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>6</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>7</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>8</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>9</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>10</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>11</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>12</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>13</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>14</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>15</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>16</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>17</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>18</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>19</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>20</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>21</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>22</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>23</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>24</td><td>_____</td><td>_____</td><td>_____</td></tr> </tbody> </table> </div>		PAGE	LINE		1	_____	_____	_____	2	_____	_____	_____	3	_____	_____	_____	4	_____	_____	_____	5	_____	_____	_____	6	_____	_____	_____	7	_____	_____	_____	8	_____	_____	_____	9	_____	_____	_____	10	_____	_____	_____	11	_____	_____	_____	12	_____	_____	_____	13	_____	_____	_____	14	_____	_____	_____	15	_____	_____	_____	16	_____	_____	_____	17	_____	_____	_____	18	_____	_____	_____	19	_____	_____	_____	20	_____	_____	_____	21	_____	_____	_____	22	_____	_____	_____	23	_____	_____	_____	24	_____	_____	_____
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